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The Stephen G. Holtzman Travel Award for Preclinical Investigators was established by family & friends of Dr. Holtzman to honor his memory in tribute to his long-time service and dedication to The College on Problems of Drug Dependence. This award will be given annually or biannually to either a pre-doctoral student or postdoctoral trainee involved in preclinical research related to drug abuse and dependence.



2015 Chloe J. Jordan  
2016 Jae Kim  
2017 Jibran Khokhar

3<sup>rd</sup> Annual  
Stephen G. Holtzman  
Travel Award  
for Preclinical Investigators



Award Presented to  
Jibran Khokhar  
by Alan J. Budney

Sunday, June 18, 2017  
Montreal Ballroom  
Hôtel Bonaventure  
Montréal, Quebec

**STEPHEN G. HOLTZMAN**  
**TRAVEL AWARD for**  
**PRECLINICAL INVESTIGATORS**



***Jibran Y. Khokhar, Ph.D.***

***Instructor***

***Department of Psychiatry, Geisel School of Medicine***  
***Dartmouth College***  
***Hanover, NH***

Dr. Khokhar has a broad background in behavioral neuropharmacology, specifically in animal models of drug abuse and metabolism. As a post-doctoral fellow (and now as an Instructor in Psychiatry) at the Geisel School of Medicine at Dartmouth, he has worked with Dr. Alan I. Green over the past four years. Dr. Khokhar has been involved in research establishing novel animal models of schizophrenia and alcohol use disorder, while beginning to study the mechanisms underlying alcohol use in these models using behavioral and neuroimaging approaches. Dr. Khokhar is also interested in understanding the long-term consequences of adolescent drug exposure on these measures. He has received training in acquisition (and analysis) of magnetic resonance spectroscopy and resting-state functional connectivity data in rats in the laboratory of Dr. Elliot Stein. During his Ph.D. studies at the University of Toronto, Department of Pharmacology and Toxicology in the lab of Dr. Rachel F. Tyndale, Dr. Khokhar developed an animal model of selective modulation of brain cytochrome P450s (CYPs) and used this model to show, for the first time, that local metabolism by CYPs in the brain can meaningfully alter the disposition of, and response to, centrally acting drugs and toxins, and how this metabolism contributes to therapeutic efficacy and addiction, as well as neurotoxicity from these substrates. During his undergraduate studies at Queen's University, he worked with Dr. Eric C. Dumont on the role of the BNST in the affective component of pain and morphine withdrawal.



***Stephen G. Holtzman***

Stephen G. Holtzman, PhD (1943 – 2011) received his B.S. in pharmacy from Columbia University in 1965, and Ph.D. in pharmacology from the University of Michigan in 1969. That same year, Steve joined the Department of Pharmacology at Emory University in Atlanta, GA as a postdoctoral fellow where he rapidly moved through the ranks. He became full professor in just 10 years, with an adjunct appointment at the Yerkes Regional Primate Center. Dr. Holtzman was professor emeritus of pharmacology at Emory University, where he spent his entire academic career. One of Steve's lasting scientific achievements is the principal role he played in the development and validation of behavioral drug discrimination in the characterization of CNS-acting drugs. He was among the first to propose that the discriminative stimulus effects of drugs in animals are analogous to their subjective effects in humans. His published reports in the 1970s through the 1990s contributed significantly to the eventual widespread adoption of drug discrimination methodology within the scientific community. This method is used widely to study drug-receptor interactions in behaving organisms and has also become a standard screening procedure within the pharmaceutical industry as it can provide important information for early decision-making on new compounds in the early stages of preclinical development. Much of Steve's research concentrated on the consequences of chronic administration of opioids and psychomotor stimulants like caffeine. In a landmark 1974 paper cited over 400 times to date (JPET 189:51-59, 1974), Steve showed that naloxone was almost as effective as d-amphetamine in suppressing eating by hungry animals, a finding that presaged the discovery of the endogenous opioid peptides in 1975-1976. Steve was a proponent and practitioner of "small science"; he was P.I. of many grants throughout his entire career. He authored around 400 publications with 250 full manuscripts that had no more than three authors. Beginning with his graduate school days and extending until his retirement in 2007, Steve had a remarkable 42-year record of continuous NIH funding, including a MERIT award from the National Institute of Drug Abuse, Research Scientist Development awards, Scientist awards, and Senior Scientist award. Steve served on numerous review committees, special emphasis panels and internal research programs. Those who served with Steve will remember his keen insight, his breadth of understanding of both the neural and behavioral sciences and the supportive direction he provided for his many colleagues. The Holtzman Lab produced 17 Ph.D.s, one master in pharmacology and mentored 21 postdoctoral fellows. At Emory, Steve was well known as an outstanding research mentor. In 1999, he was selected Outstanding Alumnus of the Department of Pharmacology at the University of Michigan. In 2011, he was selected to receive the Mentorship Award from CPDD. In 1991, he was elected President of the Society for the Stimulus Properties of Drugs. In addition to Steve's multiple, influential research contributions and inspiring mentorship, he was an extraordinary leader within CPDD where he served as President, Treasurer, Board member, and member or chair of just about every committee within the College. His professional commitment extended beyond CPDD, including the Society for Neuroscience, the American College of Neuropsychopharmacology and the American Society of Pharmacology and Experimental Therapeutics. Steve served on and chaired numerous NIH review panels, was a member of many editorial boards, as well as the Scientific Advisory Board of the Center for the Treatment of Addictions at The Rockefeller University. Throughout his career Steve participated in ASPET as a member of numerous committees, was on the editorial board of JPET from 1976-1997, and was elected as President of ASPET in 2004.

Dr. Stephen G. Holtzman will be remembered by all who knew him for his scientific achievement, mentorship, graciousness and dry wit.