David P. Siderovski, Ph.D.

**J.J. Abel Award**

Dr. David P. Siderovski, Assistant Professor in the Department of Pharmacology at the University of North Carolina at Chapel Hill, is the recipient of the 2004 John J. Abel Award, sponsored by Eli Lilly. Dr. Siderovski receives the John J. Abel Award as an outstanding young investigator for his contributions that have helped shape the field of pharmacology.

Dr. Siderovski received his B.Sc. from Queens University in Ontario, Canada and his Ph.D. from the University of Toronto. While working as Head of the Quantitative Biology Laboratory at the Amgen Institute in Toronto, Dr. Siderovski was one of the first scientists to identify the regulators of the G-protein signaling (RGS) protein superfamily. He has continued this pioneering research, applying bioinformatics and structural biological techniques to discover novel functional domain structures within RGS family members, and has achieved national and international recognition for his critical re-appraisal of previously established dogmas in the field of G protein-coupled receptor signaling. Dr. Siderovski’s current work focuses on elucidating the specific roles of RGS proteins as “kinetic scaffolds” in the coordination of multiple signal transduction pathways, as well as in the spatial and temporal regulation of neurotransmitter signaling in the brain.

Philip Needleman, Ph.D.

**Pharmacia ASPET Award for Experimental Therapeutics**

Dr. Phillip Needleman, Adjunct Professor of Molecular Biology and Pharmacology at Washington University in St. Louis and Partner in Prospect Venture Partners, is the recipient of the 2004 Pharmacia-ASPET Award for Experimental Therapeutics. Dr. Needleman received his B.S. and M.S. from the Philadelphia College of Pharmacy and his Ph.D. in Pharmacology from the University of Maryland Medical School. After completing a postdoctoral fellowship at Washington University in St. Louis, he joined the faculty and was Chairman of the Department of Pharmacology from 1976-1989. Prior to his current position, he was Chief Scientific Officer and Senior Executive Vice President and Chairman of Research & Development at Pharmacia Corporation and held other positions at G.D. Searle and Monsanto.

Dr. Needleman’s scientific contributions have been in all phases of drug discovery and development. He made the seminal observation leading to the discovery and characterization of COX-2 and the formulation of the hypothesis that specific inhibition of COX-2 would provide the therapeutic benefits of NSAIDS without their serious associated toxicity. He led the pharmaceutical team that developed chemical entities exhibiting great inhibitory specificity for COX-2 and minimal such activity against COX-1. His research group showed that these new therapeutic classes of anti-inflammatory agents exhibit pain control and the exciting new possibility of preventing or delaying cancer development. His work has helped in the development of the blockbuster drug Celebrex, and he has been instrumental in developing the careers of many successful scientists.

Lee E. Limbird, Ph.D.

**Goodman & Gilman Award in Drug Receptor Pharmacology**

Lee E. Limbird, Ph.D., Professor of Pharmacology and Associate Vice Chancellor for Research at Vanderbilt University Medical Center, is the winner of the 2004 Goodman and Gilman Award sponsored by ASPET and GlaxoSmithKline. Dr. Limbird receives the Goodman and Gilman Award for her pioneering work and contributions to our understanding of α2-adrenergic receptors.

Dr. Limbird received her B.A. in Chemistry from the College of Wooster in Wooster, Ohio and Ph.D. in biochemistry from the University of North Carolina at Chapel Hill. She began her work on adrenergic receptors, focusing on β-adrenergic receptors and their regulation of adenylyl cyclase through G proteins, during her postdoctoral work at Duke University. After two years as Assistant Professor in the
Department of Medicine at Duke University, Dr. Limbird moved to Vanderbilt University where she began her study on $\alpha_2$-adrenergic receptors, work which she has continued to the present and which has resulted in many seminal contributions to the field. These include discovery of the basis for $\alpha_2$-adrenergic receptor subtype activation of G proteins, the coupling of these receptors to multiple chemical and electrical signaling pathways, and the basis for how the same receptor can couple to different signaling pathways in neuronal versus non-neuronal cells. Dr. Limbird has used mice genetically engineered in her laboratory to provide definitive evidence for the therapeutic selectivity that can be achieved by partial agonists at $\alpha_2$-adrenergic receptors, a finding with major clinical implications. These same mice have revealed the role of this receptor subtype in sedation, anesthetic sparing, suppression of pain perception, synergism with opioids in producing analgesia, in the regulation of blood pressure and enhancement of working memory. Dr. Limbird’s research has provided us with great insights not only into the role of the $\alpha_2A$ receptor subtype in physiological and pharmacological processes but also, by extension, insights into the role of the other $\alpha_2$ subtypes and the role of the other adrenergic receptors. Dr. Limbird’s work in this area has resulted in the publication of 135 papers and book chapters.

In addition to her pioneering research, Dr. Limbird has played a major role in the teaching of pharmacology. She has been an editor of several outstanding textbooks, including editions of Goodman and Gilman’s *The Pharmacological Basis of Therapeutics*, the gold standard of textbooks in pharmacology. Dr. Limbird also served as Chair of the Department of Pharmacology at Vanderbilt for seven years.

**Thomas L. Poulos, Ph.D.**

*B. B. Brodie Award in Drug Metabolism*

Dr. Thomas L. Poulos is the winner of the 2004 Bernard B. Brodie Award in Drug Metabolism. The Award is given every other year and honors the fundamental contributions of Bernard B. Brodie in the field of drug metabolism. Dr. Poulos received his B.A. from the University of California at Santa Barbara and Ph.D. from the University of California at San Diego.

Dr. Poulos has been a pioneer in one of the major developments in drug metabolism research, notably characterizing cytochrome P450 enzymes. Knowledge of the three-dimensional structure of P450 enzymes, the major enzymes of drug metabolism, serves as the basis for all of the rational approaches to the design of selective drug metabolism inhibitors. Dr. Poulos’ breakthrough research propelled research in drug metabolism in new, exciting and unprecedented directions in both academia and the pharmaceutical industry. Because of its relevance to clinical drug-drug interactions, it soon became an important cornerstone for new drug design and development.

**Joseph V. Brady, Ph.D.**

*P.B. Dews Award in Behavioral Pharmacology*

Dr. Joseph V. Brady, Director of the Behavioral Biology Research Center at Johns Hopkins Medical Center, is the winner of the 2004 P.B. Dews Lifetime Achievement Award in Behavioral Pharmacology. The award is given every other year and honors the fundamental contributions of P.B. Dews to behavioral pharmacology. Dr. Brady received his B.S. from Fordham University and Ph.D. from the University of Chicago.

After completion of his Ph.D. in 1951, Dr. Brady went to the Walter Reed Institute of Research where he joined one of the first interdisciplinary neuropsychiatric research teams and began two productive decades in the laboratory. He collaborated on some landmark studies in what was then identified as “physiological psychology” but is now known as “behavioral neuroscience.” A series of papers in the 1950s not only showed the usefulness of animal models of “emotional behavior” for testing the effects of psychoactive drugs, but led to the enthusiastic embrace of behavioral pharmacology by the pharmaceutical industry. Dr. Brady received one of the earliest grants from the National Institute for Mental Health to establish the first Behavioral Pharmacology
Center at the University of Maryland in College Park. The advent of the Sputnik era launched Dr. Brady’s career into another direction. He was responsible for training the monkeys who were the first U.S. organisms to brave space flight in the nose cone of one of Werner von Braun’s ballistic missiles. He was involved in animal pretest flights including the first orbital flight with John Glenn’s predecessor, the chimpanzee named Ham. Dr. Brady would later establish a human programmed environment research laboratory at the Johns Hopkins University School of Medicine. He founded the Division of Behavioral Biology in the Department of Psychiatry and Behavioral Sciences at Johns Hopkins and for more than three decades has continued to direct research and educational activities at the medical school in the areas of behavior analysis and behavioral physiology, pharmacology, and medicine. Dr. Brady was a founder of the American College of Neuropsychopharmacology.