

## CURRICULUM VITAE: KRISTY D. BRUSE, PhD

### CURRENT POSITION

Safety Pharmacology Expert Consultant  
Madison, Wisconsin

### EDUCATION

1996	Ph.D. Pharmacology and Toxicology	Medical College of Virginia-VCU
1986	M.S. Biology	Southwest Missouri State University
1982	B.S. Biology	University of Missouri-Kansas City
1976	High School Diploma	Raytown South HS, Raytown, MO

### ADDITIONAL TRAINING

2007	SPS Continuing Education Course , “Supplemental Studies: Evaluation of Effects of NCEs on the Renal and Gastrointestinal Systems”, 7 <sup>th</sup> Annual Meeting of the Safety Pharmacology Society, Edinburgh, UK
2007	SPS Continuing Education Course: “Advanced Topics in SP: Case Studies from Drug Selection to NDA”, 7 <sup>th</sup> Annual Meeting of the Safety Pharmacology Society, Edinburgh, UK
2006	SPS Continuing Education Course (Instructor and Attendee), “Advanced Topics in Cardiovascular Assessment”, 6 <sup>th</sup> Annual Meeting of the Safety Pharmacology Society, San Diego, CA
2006	SPS Continuing Education Course: “QT Prolongation and the Integrated Risk Assessment: Cells to the Clinic”, 6 <sup>th</sup> Annual Meeting of the Safety Pharmacology Society, San Diego, CA
2005	International Life Sciences Institute Health and Environmental Sciences Institute (ILSI/HESI) Cardiovascular Safety Subcommittee workshop, “Moving Towards Better Predictors of Drug-induced Torsade de Pointe (TdP)”, Crystal City, Virginia
2006	SPS Continuing Education Course, “Intermediate Course on Cardiovascular Safety Pharmacology: A Practical Approach to Study Design, Data Interpretation, and Risk Assessment”, 5 <sup>th</sup> Annual Meeting of the Safety Pharmacology Society, Mannheim, Germany
2005	3 <sup>rd</sup> Annual Meeting QT Prolongation & Safety Pharmacology: Pre-clinical and clinical strategies for accurate QT Prolongation assessment, Paris, France
2004	Innovative Approaches to Safety Pharmacology, Philadelphia, PA
2003	SPS Continuing Education Course, “Safety Pharmacology in Pharmaceutical Development”, 3 <sup>rd</sup> Annual Meeting of the Safety Pharmacology Society, Noordwijk aan Zee, Netherlands
2003	2 <sup>nd</sup> Annual Cardiac Safety for New Drug Products, Philadelphia, PA

### PROFESSIONAL EXPERIENCE

June 2008 – present                      Independent Consultant  
Safety Pharmacology Expert Consultant with Paracelsus, Inc.

Over 8 years experience in Safety Pharmacology. I can provide your team the following: Management and on-site monitoring of outsourced studies, Assist in protocol design and data assessment and analysis, Provide early and late report review to assure finalization of quality reports, Facility audits and assessment of current methodologies, Recommendations to meet GLP regulatory requirements for conduct of Safety Pharmacology Studies , Database of summary documents on current Safety Pharmacology practices, Teacher/mentor: “What is Safety Pharmacology?”

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Early Safety Pharmacology enabling assays; Customizing the Core Battery Safety Pharmacology to your program. Physiological and Pharmacological Areas of experience (brief list): Research in gene therapy to cerebrovascular targets, cardiovascular (CNS and peripheral regulation) and renal function/failure models. Faculty lectures in basic physiology and focused lectures in somatomotor, renal, cardiovascular, endocrine, and peripheral and central nervous systems. Safety Pharmacology Specific: Cardiovascular [hERG assay, isolated heart, anesthetized animal models, conscious telemetry (BP, LVP, ECG), integration of Safety Pharmacology data with Toxicology ECG data], respiratory (head-out plethysmography in conscious rats), CNS (locomotor activity, rotorod, FOB), (renal volume loading model or toxicology-incorporated normovolemic renal function model) , gastrointestinal (gastric emptying, intestinal motility).

Oct 2006- June 2008                      Study Director, Safety Pharmacology  
Covance Laboratories Inc., Madison, WI

Serve as a Study Director on cardiovascular, central nervous system &/or respiratory safety pharmacology studies in rodents and non-rodents, as described in ICH and GLP regulations/guidelines. Has overall responsibility for the technical conduct of a study as well as for the interpretation, analysis, documentation and reporting of results. Duties and Responsibilities: Initiates client contact for new business development, Coordinates efforts of the study team, Develops protocols and ensures that he protocol, including any changes, is approved and is in compliance with the appropriate SOPs, GLPs, and regulatory agency guidelines, Reviews cost estimates to ensure that all protocol/amendment driven workscope specifications have been included in the price estimation. Monitors financial status of ongoing studies. Monitors progress and status of assigned studies. Ensures that all experimental data, including observations of unanticipated responses to the test system, are accurately recorded and verified. Directs analysis of data, preparation of reports, ensures compliance with protocol and regulatory requirements, and submits them to the client Peer reviews protocols and reports for other Study Directors Leads and sponsors major client visits Develops new technologies in Safety Pharmacology or enhances existing ones and assists in marketing new capabilities Conducts scientific meetings and provides leadership in scientific organizations, including publishing research findings and attaining peer recognition through contributing to the field of Safety Pharmacology Performs other related duties as assigned

Feb 2004-Oct 2006                      Research Leader, Safety Pharmacology  
Hoffmann-La Roche Inc., Nutley, NJ

Research Leader for Safety Pharmacology and was recently included as a member of the Safety Leadership Team. While at Roche, she brought to fruition a full range of assays for cardiovascular safety assessment at the Nutley site: PatchXpress for semi-automated assessment of Ikr inhibition, performance of the standard hERG assay in the spirit of GLP, "improved" isolated guinea pig assay, anesthetized hemodynamic dog model, rat and dog echocardiography, and high quality radiotelemetry studies in rodents and non-rodents. These responsibilities extended across the site as well as globally within Roche.

Sept. 2001-January 2004              Staff Pharmacologist, Department of Safety Pharmacology  
WIL Research Laboratories, Inc., Ashland, OH

Responsible for participation in and have specific responsibilities for various aspects of Safety Pharmacology, to include cardiovascular (in particular telemetry), pulmonary, central nervous system, renal/urinary, autonomic and gastrointestinal. In these areas, were responsible for writing protocols, directing studies, interpreting study data, updating SOP's and directing technical personnel. Responsibilities included assisting to market studies within the Safety Pharmacology program. These job responsibilities included, but were not limited to, contact with clients, design protocols; ensure studies run successfully; analyze, graph and interpret data; assist SAR in interpretation of the results and study conclusions.

January 1997-April 2000              Postdoctoral Fellow  
University of Iowa, Iowa City, Iowa

Prior to working at WIL, Kristy completed a post-doctoral fellowship in gene therapy and molecular biology at the University of Iowa under the mentorship of Drs. Donald D. Heistad and Curt Sigmund (1997-2001). She is published for her research in *in vivo* and *ex vivo* gene transfer of blood vessels of mice and in developing transgenic mice that overexpress renin in proximal tubule cells in the kidney.

August 1993- Dec. 1996              Graduate Student  
VCU-Medical College of VA, Richmond, VA

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## CURRICULUM VITAE: KRISTY D. BRUSE, PhD

In December 1996, Kristy received her Ph.D. degree in Pharmacology and Toxicology at the Medical College of Virginia-Virginia Commonwealth University where she published several papers (under her maiden name of Lake). While working on my dissertation, I identified a novel inhibitory neuromodulatory system using a variety of *in vivo* and *in vitro* techniques. Utilizing classical pharmacology (including a cannabinoid receptor antagonist) and structure-activity relationships, I provided evidence for a cannabinoid receptor mediated hypotension and bradycardia in anesthetized rats (Varga et al, 1995; Lake et al, 1997b). Additional studies provided evidence that the cardiovascular effects of the endogenous cannabinoid ligand

(anandamide) in conscious and anesthetized normotensive and hypertensive rats are mediated via a cannabinoid receptor (Lake et al, 1997a; Lake et al, 1997b). I was also involved in studies utilizing *in vitro* and molecular techniques to elucidate a presynaptically located cannabinoid receptor that, when activated, attenuated release of norepinephrine (Ishac et al, 1996b).

April 1992-August 1993                      Senior Research Associate  
Scios Nova, Inc., Mountain View, CA

While at Scios-Nova, Kristy evaluated the cardiovascular and renovascular effects of neutral endopeptidase inhibitors on selected natriuretic peptides (i.e., ANP, BNP, CNP). She evaluated balloon-injured rat carotid artery stenotic lesions, quantified the extent of hyperplasia in the stenotic vessels, and performed assays involving radiolabeled isotopes and monoclonal antibodies to identify selected receptor sites.

August 1988-April 1992                      Biologist I/II  
Syntex, Palo Alto, CA

Kristy worked at Syntex Research for the Institute of Pharmacology. She performed various assays in conscious or anesthetized rats and dogs to assess renal and cardiac function to determine the mechanism of action of novel compounds for drug development. Kristy analyzed data, wrote final study reports, presented at departmental meetings, and wrote her own research project proposal. In 1991 she received an Achievement of Excellence Award.

January 1987-July 1987                      Staff Research Associate  
Univ. of CA-Davis, Davis, CA

After graduation with a Master's Degree in Biology, Kristy continued working with arginine vasopressin in the central nervous system at the University of California-Davis. She investigated the inter-relationship of blood pressure and nociception regulation.

August 1982- May 1986                      Graduate student  
Southwest Missouri State University, Springfield, MO

Thesis research involved observation of central cardiovascular effects following microinjections of arginine vasopressin into the lateral habenular nucleus of the brain of anesthetized rats. The majority of the research was performed while my neuroscience advisor was on sabbatical, so I designed my experiments with minimal consultation.

May 1982-Sept. 1982                      Research Assistant  
Home Office Reference Laboratories, Shawnee Mission, KS

Research and veterinary assistant on a research farm with Nubian goats. Administered antigen adjuvant to goats in order to elicit antibody production for analysis kits. Collected blood and prepared samples for the lab. Provided health care for approximately 300 goats.

October 1977-Sept. 1981                      Research Assistant I/II/Lab manager  
University of Kansas Medical Center, Kansas City, KS

First research job was as a laboratory assistant and senior laboratory technician at the University of Kansas Medical Center from 1977-1981. I learned laboratory management and maintenance, aseptic surgical techniques, medical equipment usage and maintenance, statistical data analysis, and various assays for determination of blood and urine parameters. We investigated methodologies to reduce or reverse acute renal failure following surgically-induced hypoxia in anesthetized dogs (an established model of acute renal failure). I also assisted in the development of a new method to directly determine the glomerular ultra-filtration coefficient utilizing micropuncture techniques (Savin, V., et al, 1983).

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### VETERINARY MEDICAL EXPERIENCE

September 1994-December 1996     Veterinary Assistant

Veterinary Emergency Clinic, Richmond, VA

As a veterinary assistant, I acquired surgical and animal health care skills, assisted veterinarians with animal health care procedures, established triage protocols for emergency medical care for critically injured animals, monitored, medicated and evaluated intensive care patients.

May 1988-December 1989             Veterinary Assistant

Alameda County Emergency Animal Hospital, San Leandro, CA

As a veterinary assistant, acquired surgical and animal health care skills, assisted veterinarians with animal health care procedures, established triage protocols for emergency medical care for critically injured animals, monitored, medicated and evaluated intensive care patients.

July 1987-August 1988                Veterinary Assistant/oncology

Berkeley Dog and Cat Hospital, Berkeley, CA

As a veterinary assistant, acquired surgical and animal health care skills, assisted veterinarians with animal health care procedures, mentored clients, monitored, medicated and evaluated patients. Also performed as the veterinary technician involved in a novel therapeutic oncology program providing care for animals during treatment and anesthesia recovery.

April 1987-July 1987                  Veterinary Assistant

Sunset Animal Clinic, Suisun City, CA

As a veterinary assistant, I acquired surgical and animal health care skills, assisted veterinarians with animal health care procedures, mentored clients, monitored, medicated and evaluated patients.

September 1982-April 1983          Veterinary Assistant/Office manager

Stanley Veterinary Clinic, Stanley, KS

As a veterinary assistant, acquired surgical and animal health care skills, assisted veterinarians with animal health care procedures, mentored clients, monitored, medicated and evaluated patients.

September 1981-April 1983          Veterinary Assistant

Emergency Veterinary Clinic, Overland Park, KS

As a veterinary assistant, acquired surgical and animal health care skills, assisted veterinarians with animal health care procedures, established triage protocols for emergency medical care for critically injured animals, monitored, medicated and evaluated intensive care patients.

### TEACHING EXPERIENCE

Fall 2005

Guest Lecturer: Drug Safety Evaluations

PATH-5209: From Molecules to Medicines, UMDNJ, Newark, NJ

Fall 2002, 2003

Guest Lecturer: Safety Pharmacology

Dept. of Biology, Ashland University, OH

Summer 2001

Guest Lecturer: Principles of Renal Function

Des Moines University-Osteopathic Medical Center, Des Moines, IA.

Spring 2001

Guest Lecturer: Principles of Sensory Systems

Dept. of Physiology, Univ. of Iowa. Iowa City, IA

Spring & Fall 1999, Spring 2000

Guest Lecturer: Spinal reflexes & motor pathways

Dept. of Physiology, Univ. of Iowa. Iowa City, IA

Fall 1999

Adjunct Faculty: Anatomy and Physiology 2 Course

Kirkwood Community College, Cedar Rapids, Iowa

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Summer 1999, 2000	Adjunct Faculty: Anatomy and Physiology 1 Course Kirkwood Community College, Cedar Rapids, Iowa
Spring 1999, Spring 2000	Teaching Assistant: Renal physiology lab Dept. of Physiology, Univ. of Iowa. Iowa City, IA
Summer 1997- Fall 1999	Guest Lecturer: Use of Animals in Research Graduate College of the University of Iowa, Iowa City IA
Oct. 1997-May 1998	Tutor medical students: Anatomy, Histology, Physiology University of Iowa School of Medicine, Iowa City IA
August-December 1996	Teaching Assistant: Pharmacology Pharmacy Conference School of Pharmacy, MCV-VCU, Richmond, VA.
Spring 1996	Teaching Assistant (High School): Introduction to Pharmacology Clover Hill High School, Richmond, VA
Fall 1995	Coordinator and lecturer: Circulatory system lecture and heart dissection lab Mary Mumford Elementary fourth grade, Richmond, VA
Winter 1994, 1995, 1996	High School Teaching Assistant/ Graduate student coordinator: Questors Program for High School Students Dept. of Pharmacology and Toxicology, Richmond, VA
August 1985-July 1986	Teaching Assistant: Biology 102 Southwest Missouri State University, Springfield, MO
Fall 1985	Guest lecturer: Renal histology, Southwest Missouri State University, Springfield, MO

### PUBLICATIONS AND PRESENTATIONS

Silvana Lindgren, Alan Bass, Richard Briscoe, **Kristy Bruse**, Gregory S. Friedrichs, Mary Jeanne Kallman, Carrie Markgraf, Leslie Patmore, Michael Pugsley. Benchmarking Safety Pharmacology Regulatory Packages and Best Practice. British Journal of Pharmacology, in review 2008.

Bass, Alan S., Darpo, Borje, Breidenbach, Alexander, **Bruse, Kristy**, Feldman, Hal S, Garnes, Dianne, Hammond, Tim, Haverkamp, Wilhelm, January, Craig, Koerner, John, Lawrence, Chris, Leishman, Derek, Roden, Daniel, Valentin, Jean-Pierre, Vos, Marc A, Zhou, Ying-Ying, Karluss Thomas, Sager, Philip. Recommendations for Areas of Investigation from the Workshop Breakout Sessions. Workshop: 'Moving Towards Better Predictors of Drug-Induced Torsade de Pointe' Crystal City, Virginia, U.S.A., November 2005, Under the Auspices of the Proarrhythmia Models Project Committee International Life Sciences Institute (ILSI) Health and Environmental Sciences Institute (HESI), Journal of Pharmacological and Toxicological Methods, in review 2008.

Liang Guo, Zedong Dong, Heather Guthrie and **Kristy Bruse**. Detection of Cardiovascular Liabilities of Potential Drug Candidates Using the Isolated Guinea Pig Langendorff Heart Assay. Journal of Pharmacological and Toxicological Methods, 56 (2):e9, 2007, Fourth Annual Focus on Safety Pharmacology.

Lavoie JL, **Lake-Bruse KD**, Sigmund CD. Increased blood pressure in transgenic mice expressing both human renin and angiotensinogen in the renal proximal tubule, Am J Physiol. Renal Physiol. May; 286(5):F965-71, 2004.

**Lake-Bruse, K.D.** and Sigmund, C.D. Transgenic and knockout mice to study the renin-angiotensin system and other interacting vasoactive pathways. Current Hypertension Reports, 2:211-216, 2000.

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## CURRICULUM VITAE: KRISTY D. BRUSE, PhD

Jarai, Z., Wagner J.A., Varga, K., **Lake K.D.**, Compton, D.R., Martin, B. R., Zimmer, A. M., Bonner, T. I., Buckley, N.E., Mezey, E., Razdan, R.K., Zimmer, A., and Kunos, G. Cannabinoid-induced mesenteric vasodilatation through an endothelial site distinct from CB<sub>1</sub> and CB<sub>2</sub> receptors. Proc. Natl. Acad. Sci. USA, 96:14136-41, 1999.

**Kristy D. Lake**, Frank M. Faraci, Edward G. Shesely, Nobuyo Maeda, Curt D. Sigmund, and Donald D. Heistad. Gene transfer of endothelial nitric oxide synthase (eNOS) restores vasorelaxation to acetylcholine and A23187 in eNOS-deficient mice. Am. J. Physiol., 277:H770-H776, 1999.

Christenson, S. D., **Lake K. D.**, Ooboshi, H., Faraci, F. M., Davidson, B. L. and Heistad, D. D. Adenovirus-mediated gene transfer in vivo to cerebral blood vessels and perivascular tissue in mice. Stroke, 29:1411-1416, 1998.

**Lake K.D.**, Compton, D.R., Varga, K., Martin, B. R. and Kunos, G. Cannabinoid-induced hypotension and bradycardia in rats is mediated by CB<sub>1</sub> cannabinoid receptors. J Pharmacol. Exp. Ther., 281:1030-1037, 1997a.

**Lake K.D.**, Martin, B. R., Kunos, G. and Varga, K. Cardiovascular effects of anandamide in anesthetized and conscious normotensive and spontaneously hypertensive rats. Hypertension, 29: 1204-1210, 1997b.

Varga, K., **Lake K.D.**, Huangfu, D., Guyenet, P.G., Kunos, G. Mechanism of the hypotensive action of anandamide in anesthetized rats. Hypertension, 28:682-686, 1996a.

Ishac, E.J., **Lake K.D.**, Martin B.R., Varga K. and Kunos G. Delta-9-tetrahydrocannabinol and anandamide attenuate electrical-evoked release of [3H]-noradrenaline ([3H]-NA) from rat isolated atria and vas deferens Br. J Pharmacol. 118:2023-2028, 1996b.

Varga K., **Lake K.** and Kunos G. Novel antagonist implicates the brain cannabinoid receptor in hypotensive action of anandamide. Eur. J. Pharmacol., 278(3):279-283, 1995.

Sharif, N.A., Nunes, J.L., **Lake, K.D.**, McClelland, D.L., Corkins, S.F., Lakatos, I., Rosenkranz, R.P., Whiting, R.L. and Eglen, R.M. Chronic manipulation of dietary salt modulates renal physiology and kidney dopamine receptor subtypes: functional and autoradiographic studies. Gen. Pharmacol. 26:727-735, 1995.

Savin, V.L., R.V. Patak, G. Marr, A.S. Hermreck, S.M. Ridge and **K.D. Lake**. Glomerular ultrafiltration coefficient after ischemic renal injury in dogs. Circ. Res., 53(4):339-447, October, 1983.

### ABSTRACTS

Liang Guo, Zedong Dong, Heather Guthrie and **Kristy Bruse**. Detection of Cardiovascular Liabilities of Potential Drug Candidates Using the Isolated Guinea Pig Langendorff Heart Assay. 6<sup>th</sup> Annual Meeting of the Safety Pharmacology Society, Abstract #32, September 26-28, 2006.

**Lake-Bruse, K.D.**, Smith, K.J., Bodine, R.E., Kallman, M.J., Hoffman, W.P., Wolff, R.K., Schaefer, G.J. Combined arterial blood gas analysis and plethysmography to evaluate pulmonary function in the rat. 43<sup>rd</sup> Annual Meeting of the Society of Toxicology, 2004.

K.J. Smith, **K.D. Bruse**, R.E. Bodine, L. Freshwater, W. Hoffman, M.J. Kallman, R.K. Wolff, G.J. Schaefer. Pulmonary and arterial blood gas assessment of bethanechol in plethysmograph-restrained rats. 4<sup>th</sup> Annual Meeting of the Safety Pharmacology Society, Abstract #16, September 27-29, 2004.

Jerald T. Wilkinson, **Kristy D. Lake-Bruse**, Mark T. Herberth, Christopher P. Chengelis, and Gerald J. Schaefer. Altered PR, QRS, RR, and QT Intervals Following Orally Administered Dofetilide, Sotalol or Pinacidil to Radiotelemetry-Implanted Dogs. 3<sup>th</sup> Annual Meeting of the Safety Pharmacology Society, Abstract #48, September 29-30, 2003.

Smith, K.J., Wilkinson, J.T., **Lake-Bruse, K. D.**, Chengelis, C.P., Schaefer, G.J. Pulmonary Assessment of d-amphetamine sulfate in rats using head-out plethysmography. Summer Bioengineering Conference, 2003.

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Smith, K.J., Wilkinson, J.T., **Lake-Bruse, K. D.**, Schaefer, G.J. and Chengelis, C.P. Pulmonary and telemetry cardiovascular assessment of an escalating dose of d-amphetamine sulfate in rats. 2<sup>th</sup> Annual Meeting of the Safety Pharmacology Society, Abstract #25, September 23-24, 2002.

G.J. Schaefer, J. T. Wilkinson, **K. D. Lake-Bruse**, M. T. Herberth, and C. P. Chengelis. Use of radiotelemetry to detect changes over time of blood pressure, heart rate and electrocardiogram in rats and dogs following oral administration of isoproterenol or propranolol. 1<sup>th</sup> Annual Meeting of the Safety Pharmacology Society, Abstract #27, November 27-28, 2001.

**Lake, K.D.**, C.L. Thurston, E.S. Culhane, E.E. Carstons, and L.R. Watkins. Analgesia induced by microinjection of arginine vasopressin into the lateral habenula of conscious rats. Society of Neuroscience Abstracts 13:989, November, 1987.

**Lake, K.D.**, M. Craig and M.L. Leavett. Central cardiovascular effects of arginine vasopressin in the lateral habenular region of the brain in anesthetized rats. Federation Proceedings 46 (4): 1245, 1987.

### POSTER PRESENTATIONS:

**Bruse, K.D.** and C.D. Sigmund. Androgen-dependent regulation of human renin expression in proximal tubules of transgenic mice. Council for High Blood Pressure Research, Chicago, IL, 1:15-3:15 p.m. P82, pg. 47, September 23, 2001.

**Lake, K.D.**, F.M. Faraci, E.G. Shesely, N. Maeda, C.D. Sigmund, and D.D. Heistad. Gene transfer of endothelial nitric oxide synthase (eNOS) restores vasorelaxation to acetylcholine in eNOS-deficient mice. Experimental Biology, San Francisco, CA, 1:00-3:00 p.m., A-3, pg. 2124, April 20, 1998.

**Lake, K. D.**, F. M. Faraci, E. G. Shesely, N. Maeda, C. D. Sigmund, and D. D. Heistad. Gene transfer of endothelial nitric oxide synthase (eNOS) restores vasorelaxation to acetylcholine in eNOS-deficient mice. "Vascular and Myocardial Aspects of Ischemic Heart Disease", American Heart Association, Incline Village, NV, February 24, 1998.

**Lake, K. D.**, K. Varga and G. Kunos. Anandamide and other cannabinoids mediate hypotension via the CB<sub>1</sub> receptor in anesthetized rats. Lake, K.D. Experimental Biology, Washington, D.C. 12:00-2:00 p.m., B-281, April 17, 1996.

**Lake, K. D.**, Compton, D.R., Martin, B.R., Varga, K., Kunos, G. SAR of cannabinoids: hypotension and bradycardia. International Cannabinoid Research Society: 1996 Symposium on Cannabis and the Cannabinoids. West Dennis, Mass. June 14-16, 1996.

**Lake, K. D.**, K. Varga and G. Kunos. Cardiovascular effects of anandamide (AN) in normotensive and spontaneously hypertensive rats. Experimental Biology, Atlanta, GA. 12:00-2:00 p.m., B-281, April 11, 1995.

**Lake, K. D.**, Federation of American Societies for Experimental Biology. 71st Annual meeting, Washington, D.C. 9:00-11:00 a.m., C-6, April 2, 1987.

### ORAL PRESENTATIONS:

Bruse, K.D. Lead Optimization in Cardiovascular Safety, Toxicology & Biotechnology At the Crossroads, 2006 Post ACT Symposium, Palm Springs, CA, Nov 8, 2006

Bruse, K.D. Helpful Hints for Telemetry Study Design and Interpretation, SPS Continuing Education Course, "Advanced Topics in Cardiovascular Assessment", 6<sup>th</sup> Annual Meeting of the Safety Pharmacology Society, San Diego, CA, Sept 25, 2006

Bruse, K.D. Model Designs and Environmental Influences: Helpful Hints for Large Animal Telemetry Study Design and Interpretation, Covance / DSI Users Meeting, Madison, Wisconsin, May 18, 2006

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Bruse, KD. Non-Clinical Assessment of Cardiac Adverse Effects: QT Prolongation and Beyond, 3<sup>rd</sup> Annual Meeting QT Prolongation & Safety Pharmacology: Pre-clinical and clinical strategies for accurate QT Prolongation assessment, Paris, France, Feb 23, 2005

Bruse, K.D. Non-Clinical Assessment of Cardiac Adverse Effects: QT Prolongation and Beyond, QT Prolongation & Safety Pharmacology Conference, Paris, France Feb 23, 2005

Bruse, K.D. So What is Safety Pharmacology all About? Seminar Course presentation, Hoffmann-La Roche, Inc., March 28, 2004.

Bruse, K.D. So what is Safety Pharmacology all about? WIL Research, Inc., Ashland, OH, April 4, 2003.

Bruse, K.D. Gene-targeting of human renin to proximal tubule cells in the mice. WIL Research, Inc., Ashland, OH, July 11, 2001.

Bruse, K.D. Understanding Gene-targeting of human renin to proximal convoluted tubule cells in the kidney of transgenic mice. Des Moines University-College of Osteopathic Medicine, Des Moines, IA, June 7, 2001.

Bruse, K.D. Understanding Hypertension from the Animal model to the molecular level. Glaxco-SmithKline, Durham, NC, May 7, 2001.

Lake, K.D. Special Seminar: Cardiovascular effects of cannabinoids: Evidence for the involvement of cannabinoid receptors. Dissertation Defense, Dept. Pharmacology and Toxicology, MCV-VCU, Richmond, VA, December 17, 1996.

Lake K.D., Varga K., and Kunos G. Cardiovascular effects of cannabinoids: Evidence for the involvement of cannabinoid receptors. Graduate student seminar presentation, VCU-MCV, Richmond, VA, December, 1996.

Lake K.D., Varga K., and Kunos G. Anandamide induced hypotension via a CB<sub>1</sub> receptor. Forbes Day Finals competition, VCU-MCV, Richmond, VA April, 1996.

Lake K.D., Varga K., and Kunos G. Anandamide induced hypotension via a CB<sub>1</sub> receptor. Graduate student seminar presentation, VCU-MCV, Richmond, VA February, 1996.

Lake K.D., Varga K., and Kunos G. Novel cannabinoid receptor antagonist inhibits anandamide and the induced hypotension in anesthetized rats. Virginia Academy of Science. 73rd Annual Meeting. Virginia Military Institute, Lexington, VA. May, 1995.

Lake K.D., Varga K., and Kunos G. Cardiovascular effects of anandamide in anesthetized rats. Graduate student seminar presentation, VCU-MCV, Richmond, VA March, 1995.

### AWARDS:

2005	D2K Award, Preclinical Research and Development, Hoffmann-La Roche Inc.
2004	Special Recognition Award, NCDS, Hoffmann-La Roche Inc.
2001	Merck Young Investigators Award, American Heart Association, Council of High Blood Pressure Research, Chicago, IL.
July 2000-June 2002	AHA Heartland Affiliate Fellowship Grant
May 1998-May 2000	Individual National Research Service Award
1998	Caroline tumSuden/Frances A Hellebrandt Professional Opportunity Award; American Physiological Society, Experimental Biology, San Francisco, CA

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- 1998 Young Investigator's Award, "Vascular and Myocardial Aspects of Ischemic Heart Disease", American Heart Association; Incline Village, NV
- 1998 Poster competition, 3<sup>rd</sup> place; "Vascular and Myocardial Aspects of Ischemic Heart Disease"; American Heart Association; Incline Village, NV
- 1998-1999 "Who's Who in Science and Engineering"; The Marquis Who's Who Publications Board
- Jan. 1997-Dec. 1997 Intradepartmental Research Fellowship Training Grant
- 1996 First place winner, Graduate Student presentation; International Cannabinoid Research Society Symposium on Cannabis and the Cannabinoids; West Dennis, MA.
- 1996 Anthony Ambrose Award; Departmental award for Outstanding Research Contributions as the Best Rising Third Year Student in the Dept. of Pharmacology and Toxicology; MCV-VCU, Richmond, VA
- 1996 First place winner, 24th Annual Forbes Day Graduate Student competition; MCV-VCU, Richmond, VA
- 1995-1996 "Leadership Award", Who's Who Among Students in American Universities and Colleges
- 1995 2nd place, Student seminar presentation: Medical Sciences section; Virginia Academy of Science
- 1995 Best research project presented by a female; American Assoc. for the Advancement of Science
- 1995 Graduate Student Travel Award to Experimental Pharmacology 1995; American Society of Pharmacology and Experimental Therapeutics
- 1991 Achievement of Excellence Award; Cardiovascular Pharmacology; Syntex, Palo Alto, CA

### **PROFESSIONAL MEMBERSHIPS AND AFFILIATIONS**

- January 2006-2008 Safety Pharmacology Society Board Member  
[elected positions: Vice President Elect (2008), Board of Directors, Nominating Committee]
- September 2003, 2004 Safety Pharmacology Society Nominating Committee  
Member (elected position)
- September 2004, 2006 Safety Pharmacology Society Program Committee  
Member (volunteer position)
- September 2005, 2006 Safety Pharmacology Society Jr. Travel Award and Abstract  
Committee Members (volunteer positions)
- September 2001-present Safety Pharmacology Society Member

### **JOURNAL REVIEWER**

- 2007 to current British Journal of Pharmacology
- 2000 to 2001 Hypertension
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