

CURRICULUM VITAE

SHERMAN O. CANAPP JR., DVM, MS, CCRT
Diplomate, American College of Veterinary Surgeons

CURRENT ADDRESSES:

Office: Veterinary Orthopedics & Sports Medicine Group (VOSM)
10975 Guilford Road T
Annapolis Junction, MD 2070
Email: scanapp@vosm.com
Telephone: (240) 295-4400
Fax: (240) 295-4401
www.vosm.com

EDUCATION:

- 1995-1999 Kansas State University College of Veterinary Medicine, Manhattan, KS.
DVM/MS dual degree program, DVM, May 1999
- 1995-1999 Kansas State University College of Veterinary Medicine, Manhattan, KS.
Master's in Clinical Science in Surgery, MS, August 1999
- 1994-1995 Johns Hopkins University, Baltimore, MD.
Graduate studies in Biochemistry
- 1990-1994 University of Maryland Baltimore County - Towson University, Baltimore, MD.
Biology Major, Chemistry Minor

ACADEMIC TRAINING:

- 2000-2003 Residency in Small Animal Surgery, Resident Advisor: Dr. Dan D. Lewis,
University of Florida College of Veterinary Medicine, Gainesville, FL.
- 1999-2000 Internship in Small Animal Medicine & Surgery, Intern Advisor: Dr. James L.
Cook, University of Missouri-Columbia College of Veterinary Medicine,
Columbia, MO. Rotating internship through small animal medicine, surgery,
neurology, cardiology, anesthesia, ophthalmology, community practice, and
emergency services.
- Aug – Oct Comparative Orthopaedic Research, Drs. Paul Manley and Mark Markel,

- 1998 Comparative Orthopaedic Research Laboratory, School of Veterinary Medicine, University of Wisconsin-Madison, Madison, WI. Performing arthroscopic procedures with the application of radiofrequency energy, fracture fixation, biomechanical testing, force plate analysis, tissue processing, histological analysis, and confocal laser microscopy.
- 1997-1999 Graduate Student Master's Research, Major Professor: Dr. Ron McLaughlin (1995-98), Dr. James Roush (1998-99), Kansas State University College of Veterinary Medicine, Manhattan, KS. Scintigraphic evaluation of Cosequin DS and Cosequin DS -S-adenosyl-L- methionine as treatment for acute joint disease in dogs.
- May - Aug 1996 Small Animal Surgical Fellowship, Dr. Steven Swaim, Auburn University College of Veterinary Medicine/Scott-Ritchey Research Center, Auburn, AL. Performing reconstructive soft tissue surgery, experimental and clinical cases. Lectures and case discussions on reconstructive soft tissue surgical techniques. Research Project: The effects of locally injected Acemannan and Tripeptide-Copper Complex on the healing of full-thickness skin grafts.
- 1993-1995 Research Assistant, Drs. Phillip Brown and Nancy Ator, Johns Hopkins University School of Medicine, Bay View Research Center, Baltimore, MD. Responsibilities: Performed experimental surgical and pharmaceutical research.

ADVANCED COURSES:

- 2008 Advanced Canine Arthroscopy (Veterinary Arthrology Association; VA3). Advanced arthroscopic and joint stabilization techniques; Tightrope shoulder and stifle stabilization; OATS procedure; meniscal repair. Arthrex, Bonita Springs FL, 34134 , August 21-22, 2008.
- 2007 Stem Cell Therapy Certification. Vet-Stem Regenerative Veterinary Medicine. Poway, CA. October, 19, 2007.
- 2007 Advanced Canine Arthroscopy. Advanced arthroscopic techniques for the shoulder and stifle. Arthrex, Bonita Springs FL, 34134 , August 16-17, 2007.
- 2006 Advanced Canine Arthroscopy. Advanced arthroscopic techniques for the shoulder, elbow, stifle, and hock; Osteochondral Allo-Autograft (OATS) workshop. Arthrex, Bonita Springs FL, 34134 , August 24-26, 2006.
- 2005 Certification in Canine Rehabilitation Therapy. Dr. Janet B. Van Dyke. Canine Rehabilitation Institute, Wellington, FL, March 11-17, April 9-19, 2005.

- 2002 Kyon Course on Zurich Cementless Canine Total Hip Replacement. Drs. Pierre Montavon, Slobodan Tepic, Jeff Peck, and Jacek deHaan. Affiliated Veterinary Specialists, Maitland, FL 32751, July 13-14, 2002.
- 2002 Tibial Plateau Leveling Osteotomy Course. Slocum Enterprises, Inc., Eugene, OR 97404, June 7-8, 2002.
- 2002 Minimally Invasive Surgery Laboratory. Techniques in laparoscopy and thoracoscopy. Dr. Clarence Rawlings (Univ. of Georgia). Gainesville FL, 32610, April, 2002.
- 2002 Minimally Invasive Surgery Course. Techniques in laparoscopy and thoracoscopy. Dr. Phillip Brown, Johns Hopkins University School of Medicine, Baltimore, MD 21231, March 11-14, 2002.
- 2001 Clinical Trials Workshop. Drs. Ralph Claxton (Novartis), Steve Budsberg (Univ. of Georgia), and Charles Cortney (Univ. of Florida). Gainesville, FL 32610, October, 2001.
- 2001 Surgical stapling laboratory. Provided by Kendall Sherwood-Davis & Geck. Instructor: Richard Scavo. University of Florida, College of Veterinary Medicine, Gainesville, FL, March, 2001.
- 2001 Surgical Fixation of Fractures Conference: AO/ASIF Techniques, The Ohio State University College of Veterinary Medicine, Columbus, OH, April 26-30, 2001.
- 2000 Techniques in Laparoscopy, Thoracoscopy, and Endoscopy. Provided by the Karl Storz Corporation. Instructors: Drs. Todd Tams and Colin Burrows, University of Florida College of Veterinary Medicine. Gainesville, FL 32610, September, 2000.

LABORATORY INSTRUCTOR:

- 2007 Canine Arthroscopy Laboratory. Arthroscopic techniques for the shoulder, elbow, stifle, and hock. 2007 Mid-Atlantic States Veterinary Clinic. 6 CE hours. Howard County Fairgrounds, West Friendship, MD Sponsored by the MVMA. May 10, 2007.
- 2007 Working Dog Seminar & Wet-lab. Police K-9, Search & Rescue, Bomb Squad, Water Rescue handlers and trainers. Veterinary Orthopedic & Sports Medicine Group. Marriott Hunt Valley Inn. Hunt Valley, MD. March 31, 2007.
- 2007 Canine Sports Medicine & Rehabilitation Therapy Laboratory (6 CE credits awarded). Veterinary Orthopedic & Sports Medicine Group. Crowne Plaza Valley Forge, King of Prussia. Sponsored by Nutramax Laboratories, Inc. February 15, 2007.

- 2006 Canine Sports Medicine & Rehabilitation Therapy Laboratory (6 CE credits awarded). Veterinary Orthopedic & Sports Medicine Group. Sheraton Hotel, Columbia, MD, September 24, 2006. Sponsored by Nutramax Laboratories, Inc.
- 2002 Small Animal Arthroscopy Course. Featured lecturer Dr. John Payne. University of Florida, Gainesville, FL 32610, December 15, 2002.
- 2002 K-9 Down: Emergency medical procedures for injured working dogs. Attended by state and local policemen, firemen, and dog handlers/trainers. University of Florida, Gainesville, FL 32610, July 27-28, 2002 and July 28-29, 2001.
- 2002 Seminar for Japanese Veterinarians: Advanced Cranial Abdominal Surgical Techniques, University of Florida, College of Veterinary Medicine, Gainesville, FL 32610, February 2002.

CLINICAL INSTRUCTOR:

- 2009 Canine Rehabilitation Institute: “Current Techniques in Canine Orthopedics” advanced elective. VOSM, Annapolis Junction, MD October 23-24, 2009.
- 2009 University of Tennessee / Northeast Seminars Canine Rehabilitation Program: “The Canine Athlete” with Deborah Gross Saunders, DPT, MPT, CCRP. South Hadley, MA, September 24-26, 2009.

INSTRUCTIONAL MULTIMEDIA:

- 2007 Joint Preservation In Veterinary Practice: Evidence-Based Medicine. Dr. Sherman Canapp, Dr. Wayne McIlwraith, Dr. David Hungerford, Dr. Michael Orth. American College of Veterinary Surgeons Symposium, Sheraton Chicago Hotel, Chicago, Il., October 18, 2007.
- 2007 Nutramax Roundtable: Update on Joint Health Care. Roundtable Moderator: Dr. Darryl Millis; Participants: Dr. Sherman Canapp, Dr. Christy Redfearn, Dr. Duncan Lascelles, Dr. Larry Wallace. Veterinary Learning Systems. April 28, 2007.
- 2005 Production of an instructional video for surgeons on the uses and clinical application of a synthetic bone graft substitute (Consil®). Nutramax Laboratories, Inc., Edgewood, MD.

CLINICAL EXPERIENCE:

- 2009-present Orthopedic Surgery & Sports Medicine Consultant, Johns Hopkins University School of Medicine, Department of Comparative Medicine and Research Animal Resources, Drs. Joanna Walker and Dawn Ruben, Baltimore, MD 21205
- 2009-present Orthopedic Surgery Consultant, National Aquarium. Drs. Leigh Clayton and Kat Hadfield, Baltimore, MD 21205
- 2006-present Veterinary Orthopedic & Sports Medicine Group (VOSM); Chief of Staff, Annapolis Junction, MD. Orthopedic and neurological surgical procedures, sports medicine, and rehabilitation therapy consulting.
- 2004-present Surgical Consultant, Smithsonian's National Zoological Park, Department of Animal Health, Dr. Sharon Deem, Washington D.C. 2008.
- 2004-present Orthopedic Consultant, Nutramax Laboratories, Inc. Drs. Todd Henderson, Barbara Eves, and David Griffin. Edgewood, MD. Production of an instructional video for surgeons on the use of a synthetic bone graft substitute (Consil®); Performing a clinical trial on the use of Consil®.
- 2004-present Orthopedic Surgery and Sports Medicine Consultant, Montgomery County Police K-9 Unit. Officer Joseph Stanton, Gaithersburg, MD. Performing orthopedic and neurological surgical procedures; performing orthopedic/sports medicine consultations.
- 2004-present Orthopedic Surgery and Sports Medicine Consultant, Fly Ball and Frisbee Competition Team dogs, Columbia, MD. Team veterinarian.
- 2004-present Surgical Consultant, The Washington D.C. Animal Rescue League, Medical Director, Dr. Gary Weitzman, Washington D.C. 20011. Performing surgical consultations, orthopedic, soft tissue, and neurosurgery.
- 2004-present Surgical Consultant, Maryland Zoological Park, Department of Animal Health, Dr. Mary Denver, Baltimore, MD 21217.
- 2003-2006 Staff Surgeon, VCA Veterinary Referral Associates, Medical Director, Dr. Dave Saylor, 15021 Dufief Mill Road Gaithersburg, MD 20878. Orthopedic surgery and sports medicine, general surgery, and neurosurgery.
- 1998 Small Animal Orthopedic Surgical Externship, Drs. Simon Roe and Denis Marcellin-Little, North Carolina State University College of Veterinary Medicine, Raleigh, NC. Responsibilities: Primary casework up and management, anesthesia/surgery prep, assisted and performed surgical procedures under supervision, post-op management, client and RDVM communication. Participated in house officer rounds, ICU, and primary emergency duties.

- 1997 Small Animal Medicine & Surgery Externship, Dr. Amanda Donnelly, Emergency Veterinary Clinic of Greater Kansas City, Overland Park, KS. Responsibilities: Performed surgical procedures, diagnostics, and medical treatments. Participated in interactive patient assessment and case discussions with emergency clinicians.
- 1993-1995 Veterinary Technician, Dr. Cooper Williams, Hampstead, MD. Equine practice. Responsibilities: Assisted with surgical procedures, medical treatments, diagnostics, and examinations.
- 1987-1995 Surgical Technician, Dr. Larry Gainsburg, The Greater Baltimore Veterinary Referral Service, Owings Mills, MD. Neurology/Neurosurgery. Responsibilities: Participated in surgical procedures as a technician and assistant surgeon. Assisted with diagnostics (MRI, CT Scans, EMG, myelograms), and neuro exams.
- 1987-1993 Emergency Veterinary Technician, Dr. Bill Benson, 24-Hour Veterinary Complex, Reisterstown, MD. Small animal emergency, surgical referral, and general practice. Responsibilities: Performed diagnostics, medical treatments, and patient care. Assisted as a technician and assistant surgeon in soft tissue and orthopedic surgical procedures.

BOARD CERTIFICATION:

- 2004 American College of Veterinary Surgeons

LICENSED:

- 2003-present Maryland
1999 Missouri

SOCIETIES:

- 2001-present Veterinary Orthopedic Society
2001-present Wound Healing Association
1999-present The American Veterinary Medical Association
1997-present American Canine Sports Medicine Association
1996-1999 The Student Chapter of The American Veterinary Medical Association
1996-1999 American Animal Hospital Association
1995-1999 Student Chapter Veterinary Emergency and Critical Care Society
1991-1994 Tri-Beta (Biological Honor Society), Towson State University, MD.

COMMITTEE SERVICE:

- 2009 Seminar Chair, Sports Medicine Lecture Forum, American College of Veterinary Surgeons Symposium, Washington D.C., 2009
- 2009 Seminar Chair, Canine Rehabilitation Laboratory, American College of Veterinary Surgeons Symposium, Washington, D.C., 2009
- 2008-present Industry Liaison, American Association of Rehabilitation Veterinarians (AARV)
- 2008 Founding President, American Association of Rehabilitation Veterinarians (AARV)
- 2007 Seminar Chair, Canine Rehabilitation Laboratory, American College of Veterinary Surgeons Symposium, Chicago, IL, 2007
- 2006 Seminar Chair, Canine Rehabilitation Laboratory, American College of Veterinary Surgeons Symposium, Washington D.C., 2006
- 2006 Seminar Chair, Canine Rehabilitation Lecture Forum, American College of Veterinary Surgeons Symposium, Washington D.C., 2006

SCIENTIFIC REVIEWER:

- 2009 Veterinary Medicine, Managing Editor Alyson Collins
- 2007 Veterinary Orthopedics and Traumatology, Sophie Gillanders, Assistant editor
- 2007 Veterinary Therapeutics, Research in Applied Veterinary Medicine, Cheryl Hobbs, Senior Editor
- 2007-present Veterinary Surgery, Editor-in-Chief, Dr. John Pascoe
- 2007 Arthritis Care & Research, Co-Editor-in-Chief, Dr. Edward Yelin
- 2006 Revue de Médecine Vétérinaire; Assistant editor, Jean-Denis Bailly

HONORS & AWARDS:

- 2009 1st Place Dog Writers Association of America 2008 Writing Competition Regular Categories for Special Interest Magazine
- 2003 University of Florida Resident Seminar Award, 1st Place
- 2002 American College of Veterinary Surgeons Resident Research Presentation Award, 1st Place
- 2002 American College of Veterinary Surgeons Research and Education Foundation Award
- 2002 Veterinary Orthopedic Society Hohn-Johnson Research Award
- 2000 Intern Teaching Award, University of Missouri-Columbia CVM
- 2000 L.N. Atkinson, DVM, Intern Award for Proficiency in Medicine and Surgery

- 1999 American College of Veterinary Surgeons Proficiency in Small Animal Surgery Student Award
- 1999 UpJohn Schering-Plough Proficiency in Small Animal Medicine Award
- 1998 Eula C. Voirol Veterinary Student Scholarship
- 1998 The American Kennel Club Educational grant
- 1998 Phi Zeta Research Seminar Award, 2nd Place
- 1997 Dr. Harry L. Schultz, Jr. Memorial Scholarship, Maryland Veterinary Foundation
- 1996-1997 Vice President, The Student Chapter of The American Veterinary Medical Association, KSU College of Veterinary Medicine
- 1996 Dr. G. Roger Research Scholarship, KSU College of Veterinary Medicine
- 1996 Gladys Lichty Memorial Scholarship, KSU College of Veterinary Medicine
- 1995 Kathryn Ashbrook Scholarship, KSU College of Veterinary Medicine
- 1995 Maryland House of Delegates Higher Education Scholarship
- 1992 Outstanding Biology Student Award, U of Maryland, Towson State

SCIENTIFIC PRESENTATIONS:

Canapp SO. The Use of Stem Cell Therapy in the Elite Canine Athlete. The American Veterinary Medical Association Conference. Seattle Washington, July 11, 2009. Sponsored by Vet Stem.

Canapp SO. Common Sports Medicine Injuries in Dogs; Current Treatments of Osteoarthritis in Dogs; Orthopedic Devices in Dogs; Rehabilitation Therapy of the Elbow and Stifle in Dogs. Orthopedic and Rehabilitation Therapy Wet-Lab. Pacific Veterinary Conference, June 18-20th, 2009. Sponsored by Merial.

Canapp SO. Sports Medicine Conditions in Dogs (Lecture and Wet-lab). The Student Chapter Veterinary Medical Association Symposium. Ohio State University, March 26, 2009. Sponsored by Merial.

Canapp SO. Common Forelimb and Hind limb Orthopedic Conditions. The Virginia Veterinary Medical Association Conference. Roanoke, VA February 27-28, 2009. Sponsored by Merial.

Canapp SO. Orthopedic Devices (Orthotics, prosthetics, Braces, etc). American College of Veterinary Surgeons Symposium. Manchester Grand, Hyatt. San Diego, CA. October 23, 2008.

Canapp SO. Rehabilitation Therapy and Intra-articular Treatments for the Elbow. American College of Veterinary Surgeons Symposium. Manchester Grand, Hyatt. San Diego, CA. October 23, 2008.

Canapp SO, Canapp DA. Orthopedic Surgery, Sports Medicine & Rehabilitation Therapy Seminar and Wet Lab (6 CE credits awarded). Veterinary Orthopedic & Sports

Medicine Group. Fairfax, VA. October 12, 2008. Sponsored by Merial.

Canapp SO, Canapp DA. Orthopedic Surgery, Sports Medicine & Rehabilitation Therapy Seminar and Wet Lab (6 CE credits awarded). Veterinary Orthopedic & Sports Medicine Group. King of Prussia, PA. September 13, 2008. Sponsored by Nutramax.

Canapp SO. Orthopedic Devices (Orthotics, prosthetics, Braces, etc). Veterinary Arthrology Association; VA3 Conference). Arthrex, Bonita Springs FL, 34134 , August 21-22, 2008.

Canapp SO. Rehabilitation therapy for the elbow in dogs. Veterinary Arthrology Association; VA3 Conference). Arthrex, Bonita Springs FL, 34134 , August 21-22, 2008.

Canapp SO. Non-responsive Forelimb Lameness in Sporting Dogs. The Pennsylvania Veterinary Medical Association Keystone Conference. Hershey Lodge, Hershey, PA August 17, 2008. Sponsored by Nutramax.

Canapp SO. Non-responsive Hind Limb Lameness in Sporting Dogs. The Pennsylvania Veterinary Medical Association Keystone Conference. Hershey Lodge, Hershey, PA August 17, 2008. Sponsored by Nutramax.

Canapp SO, Acciani R. Medial Shoulder Instability in Dogs. International Veterinary Rehabilitation Therapy Conference. Hyatt Conference Center, Minneapolis, MN. August 14, 2008. Sponsored by DogLeggs.

Canapp SO. State of the Art Treatment Options for Osteoarthritis in Sporting Dogs. The American Veterinary Medical Association Annual Conference; Sports Medicine Section. New Orleans Convention Center, New Orleans, LA. July 19, 2008. Sponsored by Merial.

Canapp SO. Non-responsive Forelimb Lameness in Sporting Dogs. The American Veterinary Medical Association Annual Conference; Sports Medicine Section. New Orleans Convention Center, New Orleans, LA. July 19, 2008. Sponsored by Merial.

Canapp SO. Non-responsive Hind Limb Lameness in Sporting Dogs. The American Veterinary Medical Association Annual Conference; Sports Medicine Section. New Orleans Convention Center, New Orleans, LA. July 19, 2008. Sponsored by Merial.

Canapp SO. Sports Medicine and Rehabilitation Therapy Continuing Education Seminar. Integrative Pet Care, Chicago, IL. April 12, 2008. Sponsored by Ferno.

Canapp SO, McIlwraith WC, Hungerford DS, Orth M. Joint Preservation In Veterinary Practice: Evidence-Based Medicine. American College of Veterinary Surgeons Symposium, Sheraton Chicago Hotel, Chicago, Il., October 18, 2007. Sponsored by Nutramax Laboratories, Inc.

Canapp SO, Love N, Gavin P, Stoller N, Leasure C, Frondoza C. Effect of Bioceramic

Material (Consil™) on the Healing of Tibial Plateau Leveling Osteotomy Sites in Dogs. Poster Presentation. American College of Veterinary Surgeons Symposium, Sheraton Chicago Hotel, Chicago, IL, October 18, 2007.

Canapp SO, Canapp DA. Orthopedic Surgery, Sports Medicine & Rehabilitation Therapy Seminar and Wet Lab (6 CE credits awarded). Veterinary Orthopedic & Sports Medicine Group. Hilton, Willington, DE, September 30, 2007. Sponsored by Merial.

Canapp SO, Canapp DA. Working Dog Seminar (Injuries, Therapies and Prevention). United States Police Canine Association (USPCA) National Training Seminar. Fredrick, MD, September 23, 2007.

Canapp SO, Canapp DA. Orthopedic Surgery, Sports Medicine & Rehabilitation Therapy Seminar and Wet Lab (6 CE credits awarded). Veterinary Orthopedic & Sports Medicine Group. Holiday Inn, Gaithersburg, MD, July 22, 2007. Sponsored by Merial.

Canapp SO, Canapp DA. State of the Art Treatment Options for Osteoarthritis in Dogs. Fredrick, MD. Sponsored by Merial 19, 2007.

Canapp SO, Canapp DA. State of the Art Treatment Options for Osteoarthritis in Dogs. Ellicott City, MD. Sponsored by Nutramax Laboratories, Inc, and Pfizer Animal Health. March 22, 2007.

Canapp SO, Love N, Gavin P, Stoller N, Leasure C, Frondoza C. Effect of Bioceramic Material (Consil™) on the Healing of Tibial Plateau Leveling Osteotomy Sites in Dogs. Podium Presentation. Veterinary Orthopedic Society, Sun Valley, Idaho. March, 2007.

Canapp SO. Agility Dog Seminar & Wet-lab. Sheraton Columbia Hotel. Columbia, MD. Sponsored by Nutramax Laboratories Inc. February 11, 2007.

Canapp SO. Orthopedic Conditions in Performance Dogs. American Physical Therapy Association, Combined Sections Meeting, The Animal Physical Therapy Special Interest Group. Boston, Massachusetts. February 15, 2007.

Canapp SO. Orthopedic Conditions in Performance Dogs. Continuing Education Seminar. Jefferson Hotel and Conference Center, Richmond, VA. January 28, 2007. Sponsored by Pfizer Animal Health.

Canapp SO. Injuries in Sporting and Working Dogs. The North American Veterinary Conference. Gaylord Conference Center, Orlando, FL, January 14, 2007.

Canapp SO. Non-responsive Forelimb Lameness: Shoulder Tendinopathies. American College of Veterinary Surgeons Symposium, Rehabilitation Therapy Scientific Session, Washington DC, October 5, 2006.

Canapp SO, Canapp DA. Canine Sports Medicine & Rehabilitation Therapy Seminar and Wet Lab (6 CE credits awarded). Veterinary Orthopedic & Sports Medicine Group. Sheraton Hotel, Columbia, MD, September 24, 2006. Sponsored by Nutramax Laboratories, Inc.

Canapp SO. MRI for Soft Tissue Injuries in Dogs. Regional Specialist's Forum. IAMS Imaging Center, San Francisco, CA. September 7, 2006.

Canapp SO. The Use of MRI for Orthopedic Conditions in the Dog. Regional Surgeon's Forum. IAMS Imaging Center, Vienna, VA. March 16, 2006.

Canapp, SO. Rehabilitation Therapy for the Canine Athlete. Lectures and workshop. York County Dog Training Club Seminar, PA. March 12, 2006. Sponsored by Nutramax Laboratories, Inc.

Canapp SO. Getting the Most Out of Your Orthopedic Examination. Montgomery County Continuing Education Seminar. Marriott, Gaithersburg, MD. February 26, 2006.

Canapp SO, Canapp DA. Orthopedic injuries in Agility Dogs; Rehabilitation Therapy for Agility Dogs. Lectures and workshop. Agility After Dark, Westminster Sports Complex, Westminster, MD, January 8, 2006.

Canapp SO. Orthopedic Conditions in Performance Dogs – Common Injuries, Preferred Treatments, and New Options. Montgomery County Veterinary Medical Association Continuing Education Meeting, Gaithersburg, MD, November 8, 2005. Sponsored by Merial Ltd.

Canapp SO. Getting the Most Out of Your Orthopedic Examination; Sports Medicine Injuries in the Canine Athlete. Continuing Education Meeting. Wool Watchers K-9 Rehab & Fitness Referral Centre, Halifax, Nova Scotia, Canada, November 5, 2005.

Canapp SO. Orthopedic Conditions in Performance Dogs – Common Injuries, preferred Treatments, and New Options. Annual American College of Veterinary Surgeons Symposium, San Diego, CA, October 29, 2005. Sponsored by Nutramax Laboratories, Inc.

Canapp SO. Getting the Most Out of Your Orthopedic Examination; Sports Medicine Injuries in the Canine Athlete. Blue Ridge K-9 Training Center Seminar, Blue Ridge Summit, PA, October 15, 2005.

Canapp SO. Orthopedic Conditions in Performance Dogs – Common Injuries, preferred Treatments, and New Options. Maryland Agility Group and Breakaway Action Dogs Seminar, Frederick, MD, July 31, 2005.

Canapp SO. Minimally Invasive Surgery “Where Less is Really More”. Annual American College of Veterinary Surgeons Symposium, Pet Owners Seminar, Denver Colorado, October 9, 2004.

Canapp SO, Cross AR, Brown MP, Lewis DD, Hernandez J, Tran-Son-Tay R. Examination of Synovial Fluid and Serum Following Intravenous Injections of Hyaluronan for the Treatment of Osteoarthritis in Dogs. The Veterinary Orthopedic Society Conference. Big Sky, Montana, February 25, 2004.

Canapp SO, Cross AR, Brown MP, Lewis DD, Hernandez J, Tran-Son-Tay R. Examination of Synovial Fluid and Serum Following Intravenous Injections of Hyaluronan for the Treatment of Osteoarthritis in Dogs. 13th Annual American College of Veterinary Surgeons Symposium, Orthopedic Scientific Session, Washington DC, October 13, 2003.

Canapp SO. Medical Management of Osteoarthrosis. The North American Veterinary Conference. Orlando, FL, January 19, 2003.

CanappSO, JP Farese, GS Schultz, SF Swaim, JM VanGilder, L Lee-Ambrose, FG Martin, AM Ishak. The Effect of Topical Tripeptide-Copper-Complex in a Model For Chronic Open Wounds. 12th Annual American College of Veterinary Surgeons Symposium, Resident Research Presentation Competition, San Diego, CA, October 17, 2002.

Canapp SO. Joint Protective Agents for the Treatment of Osteoarthritis; Arthroscopic Applications in Joint Disease. 73rd Annual Florida Veterinary Medical Association Convention, Orlando, FL, September 15, 2002.

Canapp SO. The Use of Minimally Invasive Surgery in Veterinary Medicine. Peter Piper Memorial Continuing Education Conference, Caloosa Veterinary Society, Sanibel Island, FL., August 3, 2002.

SO Canapp, JP Farese, GS Schultz, SF Swaim, JM VanGilder, L Lee-Ambrose, FG Martin, AM Ishak. The Effect of Topical Tripeptide-Copper-Complex in a Model For Chronic Open Wounds. Veterinary Wound Healing Seminar, University of Edinburgh, Scotland, May 9, 2002.

Canapp SO. Joint Protective Agents for the Treatment of Osteoarthritis. Alachua County Veterinary Society Continuing Education Conference. Gainesville, FL 32610, September 14, 2001.

Canapp SO. The Use of Arthroscopy in Small Animal Surgery. 1st Annual Referring Veterinarian Continuing Education and Appreciation Day. Gainesville, FL 32610, September, 2001.

Canapp SO. Chondroprotective Agents: *Fact or Fiction?* Peter Piper Memorial Continuing Education Conference, Caloosa Veterinary Society, Sanibel Island, FL., August 4, 2001.

Canapp SO, McLaughlin RM, Roush JK, Kawcak CE, Lillich JD. Serologic levels of Hyaluronan, Osteocalcin, and Collagen 2 ¾ in normal dogs and dogs with synovitis. 10th

Annual American College of Veterinary Surgeons Symposium, Small Animal Orthopedic Surgery Scientific Session, Crystal City Arlington, Virginia, September 22, 2000.

Canapp SO, McLaughlin RM, Hoskinson JJ, Roush JK, Butine MD. Scintigraphic evaluation of Cosequin DS and Cosequin DS – S-adenosyl-L-methionine as treatments for acute synovitis in dogs. 8th Annual American College of Veterinary Surgeons Symposium, Small Animal Orthopedic Surgery Scientific Session, Chicago, IL. October 9, 1998.

Canapp SO, McLaughlin RM, Hoskinson JJ, Roush JK. Scintigraphic evaluation of Cosequin as treatment for acute synovitis in dogs. Annual Phi Zeta Research Seminar, Kansas State University College of Veterinary Medicine. March 18, 1998.

Canapp SO, McLaughlin RM, Hoskinson JJ, Roush JK. Scintigraphic evaluation of Acute Joint Disease in Dogs. Pilot study presentation for Nutramax Laboratories Inc., Kansas State University College of Veterinary Medicine. June 10, 1997.

Canapp SO, Swaim SF. The effects of locally injected Acemannan and Tripeptide-Copper Complex on the healing of full-thickness skin grafts. Proposal presentation, Scott-Ritchey Research Center, Auburn University College of Veterinary Medicine. July 29, 1996.

SCHOLARLY WRITINGS:

Original Reviewed Publications:

Canapp SO, Acciani D, Hulse D, Schulz K, Canapp D. Rehabilitation Therapy for the Elbow in Dogs. *Veterinary Surgery*, 38:300-306, 2009

Canapp SO, Love N, Gavin P, Stoller N, Leasure C, Frondoza C. Effect of Bioceramic Material (Consil™) on the Healing of Tibial Plateau Leveling Osteotomy Sites in Dogs. *Submitted to the Journal of the American Veterinary Medical Association January 2008.*

Canapp SO, Cross AR, Brown MP, Lewis DD, Tran-Son-Tay R, Hernandez J. The Evaluation of Synovial Fluid and Serum Following Intravenous Injections of Hyaluronan for the Treatment of Osteoarthritis in Dogs. *Veterinary Orthopedic and Traumatology*, 2005;18:169-74.

Canapp SO, Farese JP, Schultz GS, Swaim SF, Van Gilder JM, Lee-Ambrose L, Martin FG, Ishak AM. The Effect of Topical Tripeptide-Copper-Complex in a Model for Chronic Open Wounds. *Veterinary Surgery* 2003; 32:515-523.

LaFurtune M, Canapp SO, Heard D. A Vasectomy Technique for Egyptian Fruit Bats (*Rousettus aegyptiacus*). *Journal of Zoo and Wildlife Medicine*, 2004;35:104-106.

Vinson JA, Canapp SO, Cook CR, Lattimer JC. Kartagener's Syndrome in a Dachshund Dog. *Journal of the American Animal Hospital Association*, 2002;38:45-49.

Canapp SO, Cohn LA, Maggs DJ, Miller MA, O'Brien PO, Kerl ME. Xerostomia and Xerophthalmia in a Cat with Sjogren's-Like Syndrome. *Journal of the American Veterinary Medical Association* 2001;218:59-65.

Canapp SO, Mann FA, Henry CJ, Lattimer JC. The Use of a Latissimus Dorsi Muscle Flap for Scapular Reconstruction in a Cat Following Fibrosarcoma Excision. *Journal of the American Animal Hospital Association*, 2001; 37:283-289

Canapp SO, McLaughlin RM, Hoskinson JJ, Roush JK, Butine MD. Scintigraphic evaluation of Glucosamine Hydrochloride and Chondroitin Sulfate as treatment for acute synovitis in dogs. *American Journal of Veterinary Research* 1999;60:1549-1553.

Published Abstracts and Proceedings:

Canapp SO. Orthopedic Devices (Orthotics, prosthetics, Braces, etc). American College of Veterinary Surgeons Symposium. Manchester Grand, Hyatt. San Diego, CA. October 23, 2008.

Canapp SO. Rehabilitation Therapy and Intra-articular Treatments for the Elbow. American College of Veterinary Surgeons Symposium. Manchester Grand, Hyatt. San Diego, CA. October 23, 2008.

Canapp SO. Orthopedic Devices (Orthotics, prosthetics, Braces, etc). Veterinary Arthrology Association; VA3 Conference). Arthrex, Bonita Springs FL, 34134, August 21-22, 2008.

Canapp SO. Rehabilitation therapy for the elbow in dogs. Veterinary Arthrology Association; VA3 Conference). Arthrex, Bonita Springs FL, 34134, August 21-22, 2008.

Canapp SO. Non-responsive Forelimb Lameness in Sporting Dogs. The Pennsylvania Veterinary Medical Association Keystone Conference. Hershey Lodge, Hershey, PA August 17, 2008.

Canapp SO. Non-responsive Hind Limb Lameness in Sporting Dogs. The Pennsylvania Veterinary Medical Association Keystone Conference. Hershey Lodge, Hershey, PA August 17, 2008.

Canapp SO, Acciani R. Medial Shoulder Instability in Dogs. International Veterinary Rehabilitation Therapy Conference. Hyatt Conference Center, Minneapolis, MN. August 14, 2008.

Canapp SO. State of the Art Treatment Options for Osteoarthritis in Sporting Dogs. The American Veterinary Medical Association Annual Conference; Sports Medicine Section. New Orleans Convention Center, New Orleans, LA. July 19, 2008.

Canapp SO. Non-responsive Forelimb Lameness in Sporting Dogs. The American Veterinary Medical Association Annual Conference; Sports Medicine Section. New Orleans Convention Center, New Orleans, LA. July 19, 2008.

Canapp SO. Non-responsive Hind Limb Lameness in Sporting Dogs. The American Veterinary Medical Association Annual Conference; Sports Medicine Section. New Orleans Convention Center, New Orleans, LA. July 19, 2008.

Canapp SO, McIlwraith WC, Hungerford DS, Orth M. Joint Preservation In Veterinary Practice: Evidence-Based Medicine. American College of Veterinary Surgeons Symposium, Sheraton Chicago Hotel, Chicago, Il., October 18, 2007. Sponsored by Nutramax Laboratories, Inc.

Canapp SO, Love N, Gavin P, Stoller N, Leasure C, Frondoza C. Effect of Bioceramic Material (Consil™) on the Healing of Tibial Plateau Leveling Osteotomy Sites in Dogs. Poster Presentation. American College of Veterinary Surgeons Symposium, Sheraton Chicago Hotel, Chicago, Il., October 18, 2007.

Canapp SO. Injuries in Sporting and Working Dogs. The North American Veterinary Conference. Gaylord Conference Center, Orlando, Fl, January 14, 2007.

Canapp SO. Non-responsive Forelimb Lameness: Shoulder Tendinopathies. American College of Veterinary Surgeons Symposium, Rehabilitation Therapy Scientific Session, Washington DC, October 5, 2006

Canapp SO. Minimally Invasive Surgery “Where Less is Really More”. Annual American College of Veterinary Surgeons Symposium, Pet Owners Seminar, Denver Colorado, October 9, 2004.

Canapp SO, Cross AR, Brown MP, Lewis DD, Hernandez J, Tran-Son-Tay R. Examination of Synovial Fluid and Serum Following Intravenous Injections of Hyaluronan for the Treatment of Osteoarthritis in Dogs. The Veterinary Orthopedic Society Conference. Big Sky, Montana, February 25, 2004.

Canapp SO, Cross AR, Brown MP, Lewis DD, Hernandez J, Tran-Son-Tay R. Examination of Synovial Fluid and Serum Following Intravenous Injections of Hyaluronan for the Treatment of Osteoarthritis in Dogs. 13th Annual American College of Veterinary Surgeons Symposium, Washington DC, October 13, 2003.

Canapp SO. Medical Management of Osteoarthrosis. The North American Veterinary Conference. Orlando, FL, January 19, 2003.

Canapp SO, JP Farese, GS Schultz, SF Swaim, JM VanGilder, L Lee-Ambrose, FG Martin, AM Ishak. The Effect of Topical Tripeptide-Copper-Complex in a Model For Chronic Open Wounds. 12th Annual American College of Veterinary Surgeons Symposium, Scientific Presentation, San Diego, CA., 2002:4.

Canapp SO. Joint Protective Agents for the Treatment of Osteoarthritis; Arthroscopic Applications in Joint Disease. 73rd Annual Florida Veterinary Medical Association Convention, Orlando, FL, 2002:97-107.

Canapp SO. The Use of Minimally Invasive Surgery in Veterinary Medicine. Proceedings for the Peter Piper Memorial Continuing Education Conference, Caloosa Veterinary Society, Sanibel Island, FL., 2002: 114-121.

SO Canapp, JP Farese, GS Schultz, SF Swaim, JM VanGilder, L Lee-Ambrose, FG Martin, AM Ishak. The Effect of Topical Tripeptide-Copper-Complex in a Model For Chronic Open Wounds. Veterinary Wound Healing Seminar, University of Edinburgh, Scotland, 2002:6.

Canapp SO. Chondroprotective Agents: *Fact or Fiction?* Proceedings of the Peter Piper Memorial Continuing Education Conference, Caloosa Veterinary Society, Sanibel Island, FL., 2001:162-175.

Canapp SO, McLaughlin RM, Roush JK, Kawcak CE, Lillich JD. Serologic levels of Hyaluronan, Osteocalcin, and Collagen 2^{3/4} in normal dogs and dogs with synovitis. 10th Annual American College of Veterinary Surgeons Symposium, Small Animal Orthopedic Surgery Scientific Session, Crystal City Arlington, Virginia, 2000:4

Canapp SO, McLaughlin RM, Hoskinson JJ, Roush JK. The effects of Cosequin on acute carpal synovitis in dogs. Proceedings of the Veterinary Orthopedic Society 26th Annual Conference. Sun Valley, Idaho, 1999:43

Canapp SO, McLaughlin RM, Hoskinson JJ, Roush JK. Scintigraphic evaluation of Cosequin as treatment for acute synovitis in dogs. *Vet Surg* 27:502, 1998

Canapp SO, McLaughlin RM, Hoskinson JJ, Roush JK. Scintigraphic evaluation of Cosequin as treatment for acute synovitis in dogs. Proceedings of the American College of Veterinary Surgeons Symposium, Small Animal Orthopedic Surgery Scientific Session, Chicago, IL., 1998:5.

Canapp SO, McLaughlin RM, Hoskinson JJ, Roush JK. Scintigraphic evaluation of Cosequin as treatment for acute synovitis in dogs. Proceedings of the Annual Phi Zeta Research Seminar, 1998:15-16.

Book Chapters

Canapp SO, Gross-Saunders D. Common Orthopedic Conditions in Performance Dogs. Canine Rehabilitation and Physical Therapy 2nd Edition. *In progress*

Canapp SO, Campana D. External Coaptation and Orthopedic Devices. Small Animal Surgical Practices 1st Edition, Elsevier. *In progress*

Canapp SO. The Canine Stifle. *Clinical Techniques in Small Animal Practice*, 22: 195-205, 2007.

Marcellin-Little DJ, Levine D, Canapp SO. The Canine Shoulder: Selected Disorders and Their Management with Physical Therapy. *Clinical Techniques in Small Animal Practice*, 22:171-182, 2007.

Canapp SO. External Fracture Fixation; Techniques for the Management of Long Bone Fractures. *Clinical Techniques in Small Animal Practice*, 2004; 19 (3): 114-119

Original Non-reviewed Publications:

Canapp SO. Canine Orthopedic Devices. Clean Run Magazine. *In press*

Canapp SO. Osteochondrosis Dissecans (OCD) in Agility Dogs. Clean Run Magazine. April 2009.

Canapp SO. Carpal and Tarsal Injuries in Performance Dogs. Clean Run Magazine. April 2008.

Canapp SO. Glucosamine and Chondroitin Sulfate with ASU – Joint Health Beyond NSAIDs. Veterinary Forum, April 2008: 34-35

Canapp SO, Hulse D. Jump Down Syndrome. Clean Run Magazine. April 2008.

Canapp SO. On Thin Ice (The Dangers of Winter Injuries Resulting in Hip Flexor Strains). Baltimore Dog Magazine. December 2007.

Canapp SO. Medial Shoulder Instability (Rotator Cuff Injury). Clean Run Magazine. November 2007.

Canapp SO. Rehabilitation Therapy for Cranial Cruciate Ligament Injury in Agility Dogs; Part II. Clean Run Magazine. September 2007.

Canapp SO. Medial Shoulder Instability. Wizard of Paws Journal (Dedicated to Canine Physical therapy), 2007.

Canapp SO. Cranial Cruciate Ligament Injury in Agility Dogs; Part I. Clean Run Magazine. July 2007.

Canapp SO. Joint Protect Agents for Performance Dogs. Clean Run Magazine. May 2007

Canapp SO. Non-responsive Hind Limb Lameness in Agility Dogs: Iliopsoas Strains. Clean Run Magazine. March 2007

Canapp SO. Shoulder Conditions in Agility Dogs. Clean Run Magazine. January 2007;13:65-69.

Canapp SO. Orthopedic Conditions in Sporting and Working Dogs. Wizard of Paws Journal (Dedicated to Canine Physical therapy), 2006; 7: 2-6.

Canapp SO. Canine Arthroscopy: "Where Less Really is More". American Canine Sports Medicine Association Newsletter, 2005;11:1-3.

GRANT SUPPORT

Canapp SO, Love N, Stoller NB. Effect of Bioceramic Material (Consil™) on the Healing of Tibial Plateau Leveling Osteotomy Sites in Dogs. Nutramax Laboratories, Inc., Edgewood, MD. November 2004, \$7500

Canapp SO, Cross AR, Brown MP, Lewis DD, Cook JL, Tran-Son-Tay R, Kawcak CE, Billinghurst CR, Armstrong D, Hernandez J. Examination of Synovial Fluid and Serum Following Intravenous Injections of Hyaluronan for the Treatment of Osteoarthritis in Dogs. Univ. of Florida Intramural Research Competition, October 2001, \$7,500; American College of Veterinary Surgeons Grant, February 2002, \$2,400; Veterinary Orthopedic Society Grant 2002, \$2,500.

Canapp SO, Farese JP, Detrisac C, Armstrong D, Jones G, Swaim SF. The Effect of Topical Tripeptide-Copper-Complex in a Model for Chronic Open Wounds. University of Florida College of Veterinary Medicine, Resident Research Competition, October 2000, \$4700

Canapp SO, Kuroki K, Kenter K, Tomlinson JL, Cook JL. Examination of Synovial Fluid Following Intra-articular Injections of Hyaluronan for the Treatment of Osteoarthritis in Humans. University of Missouri-Columbia College of Veterinary Medicine Committee on Research, November 1999, \$6,000

Canapp SO, McLaughlin RM, Lillich JD, Roush JK, Hoskinson JJ. Serologic Evaluation of Markers in Articular Disease in Dogs Following Administration of Cosequin DS. Nutramax Laboratories, Inc., May 1999, \$9,989

RESEARCH ACTIVITY:

- 2009-present The Effects of Function Stifle Braces for Cranial Cruciate Ligament Insufficiency In Dogs. Derrick Campana, OT, Drs. Peter Lotsikas, Matt Johnson, Chris Zink, Debra Canapp. VOSM Annapolis Junction, MD.
- 2009-present The effects of Intra-articular Blocking for Assessment of Lameness in Dogs. Drs. Jen Brown, Shauna Cantwell, Chris Zink, Peter Lotsikas, Matt Johnson. VOSM, Annapolis Junction, MD.
- 2009-present Effect of TRMatrix on the Healing of Tibial Plateau Leveling Osteotomy Sites in Dogs. Drs. Peter Lotsikas, Pat Gavin, Matt Johnson, Debra Canapp. VOSM, Ellicott City, MD.
- 2004 Effect of Bioceramic Material (Consil™) on the Healing of Tibial Plateau Leveling Osteotomy Sites in Dogs. Drs. Nancy Love, Pat Gavin, Nicole Stoller, Chris Leasure, C Frondoza VOSM, Ellicott City MD and Dark Horse Telemedicine, Carey NC.
- 2003 Examination of Synovial Fluid and Serum Following Intravenous Injections of Hyaluronan for the Treatment of Osteoarthritis in Dogs. Drs. Alan R. Cross, Murray P. Brown, Daniel D. Lewis, Roger Tran-Son-Tay, Christopher E. Kawcak, R. Clark Billingham, Donald Armstrong, Jorge Hernandez. Departments of Small and Large Animal Clinical Sciences College of Veterinary Medicine, Aerospace Engineering, University of Florida, Gainesville, FL; and the Orthopaedic Research Laboratory, Colorado State University College of Veterinary Medicine and Biomedical Sciences, Fort Collins.
- 2003 The Effect of Topical Tripeptide-Copper-Complex in a Model for Chronic Open Wounds. Drs. James P. Farese, Carol Detrisac, Donald Armstrong, Galin Jones, Steven F. Swaim, Department of Small Animal Clinical Sciences, and Pathobiology, College of Veterinary Medicine, University of Florida; and the Scott-Ritchey Research Center, University of Auburn, College of Veterinary Medicine.
- 1999 Serologic Evaluation of Markers in Articular Disease in Dogs Following Administration of Cosequin DS. Drs. Ron McLaughlin, Jim Roush, Christopher Kawcak*, Jim Lillich, Kansas State University College of Veterinary Medicine,

Manhattan, KS, *Colorado State University College of Veterinary Medicine and Biomedical Sciences, Fort Collins, CO. Responsibilities: Writing grant proposal, collecting and processing samples, and analyzing data.

- 1998 Effect of Application Mode of Radiofrequency Energy on Joint Capsular Healing: An *In Vivo* Comparative Study of Treatment by Multiple Passes vs. Paint-Brush Like Motion in a Sheep Model. Drs. Paul Manley, Mark Markel, Yan Lu. Comparative Orthopaedic Research Laboratory, School of Veterinary Medicine, University of Wisconsin-Madison, Madison, WI. Responsibilities: Assisting and performing arthroscopic procedures with the application of radiofrequency energy, tissue processing and histologic analysis.
- 1998 The Effect of Coxofemoral Joint Modification to Prevent Hip Dysplasia. Drs. Mark Markel, Mandi Lopez, Kei Hayashi, Ryland Edwards. Comparative Orthopaedic Research Laboratory, School of Veterinary Medicine, University of Wisconsin-Madison, Madison, WI. Responsibilities: Assisting and performing arthroscopic procedures with the application of radiofrequency energy, and subsequent force plate analysis.
- 1998 An *In Vitro* Biomechanical Comparison of Two Interlocking Nail Systems of Osteotomized Equine Third Metacarpal Bones. Drs. Mandi Lopez, David Wilson, Ray Vanderby, Mark Markel. Comparative Orthopaedic Research Laboratory, School of Veterinary Medicine, University of Wisconsin-Madison, Madison, WI. Responsibilities: Specimen collection and processing, performing interlocking nail placement and osteotomies, and biomechanical testing.
- 1998 The Effect of Monopolar Radiofrequency Energy on Partial Thickness Defects of articular Cartilage. Drs. Mark Markel, Yan Lu, Kei Hayashi. Comparative Orthopaedic Research Laboratory, School of Veterinary Medicine, University of Wisconsin-Madison, Madison, WI. Responsibilities: Specimen collection, tissue processing, assisting and performing histological analysis and confocal laser microscopy.
- 1996-1998 Scintigraphic Evaluation of Cosequin DS and Cosequin DS – S-adenosyl-L-methionine as Treatments for Acute Synovitis in Dogs. Drs. Ron McLaughlin, James Hoskinson, James Roush, Mike Butine. Kansas State University, College of Veterinary Medicine. Responsibilities: Performing intra-articular injections, administering ^{99m} Technetium-methylene diphosphonate complex, assisting and performing nuclear scintigraphy, performing lameness examinations, maintaining daily records, collecting and analyzing data.
- 1996 The Use of Biogluce Applied Topically For Closure of Skin Incisions. Dr. Steven Swaim, Scott-Ritchey Research Center, Auburn University College of Veterinary Medicine. Responsibilities: Assisting and performing surgical procedures, scanning lesions with the Laser Doppler Perfusion Imager, performing tensiometry, and collecting data.

- 1996 The Effects of Collagen Gel and Collagen Pads on The Healing of Open Wounds. Dr. Steven Swaim, Auburn University College of Veterinary Medicine. Responsibilities: Assisting and performing surgical procedures, treating wounds with collagen dressing, performing planimetry, and collecting data.
- 1996 The Use of Bioelastic-Thromboxane Synthetase Inhibitor-Matrix (B-TSI-M) to Prevent Decubital Ulcers. Dr. Steven Swaim, Auburn University College of Veterinary Medicine. Responsibilities: Anesthetizing dogs, placing casts over the calcaneal tuberosity and evaluating cutaneous pressures.
- 1994 Surgical Procedures and Tethering Systems For Intravenous and Intragastric Drug Administration. Dr. Phillip Brown, Johns Hopkins University School of Medicine, Bayview Research Center. Responsibilities: Assisting and performing surgical procedures, constructing intravenous and intragastric tethering drug administration systems.
- 1993 Self-injection, Drug Discrimination, and Physical Dependence on Benzodiazepines and Other Anxiolytic/Sedative Drugs. Dr. Nancy Ator, Johns Hopkins University School of Medicine, Bayview Research Center. Responsibilities: Preparing and administering compounds, dependence assessment, physical examinations, programming administration systems and collecting data.
- 1992 Growth Hormone Releasing Hormone Gene Expression in The Hypothalamus. Dr. Larry Walker, Johns Hopkins University School of Medicine, Ross Research Center. Responsibilities: Computer mapping immunocytochemically labeled neuropeptides within the hypothalamus.