



Amanda Pike, Masters student, May 2009-present (Comparative Biomedical Sciences)

**Current and former high school and undergraduate trainees:**

Jason Seifert, Jason Belter, Melissa Lefton, Cynthia Liu, Katie Stewart, Nicole Anderson, Kelly Hume, Rhonda Waller, Julia McCarthy, Tara Brooke Schultz, Sean Jungbluth, Ainsley Eberwein

**Veterinary students:** Katrina Villiard, Merck-Merial Summer Scholars Program (2005);  
James Le Vasseur, Merck-Merial Summer Scholars Program (2007)

**Postdoctoral fellows:**

Jeffrey Blumenthal, MD, Pediatric Gastroenterology Fellow, Department of Pediatrics, 7/94-6/96  
Catherine Peterson, Ph.D. joint supervision with D. Ney, Dept. Nutritional Sciences 3/94-8/96  
Clark Nelson, Ph.D., August 2006-September 2009

**Visiting students/scholars:**

Andreas Balslev-Clausen, Medical Student, University of Copenhagen, 8/01-5/02

**Membership on graduate dissertation committees:**

Christopher Boehler (Department of Nutritional Sciences, University of Wisconsin)  
Rachel Bradford (Dept of Biomedical Engineering, Michigan Technological University)  
Keith Hengen (Neuroscience Training Program, Univ. of Wisconsin)  
Melisa Budde (Department of Medical Microbiology and Immunology, Univ of Wisconsin)  
Kenneth Waller (Comparative Biomedical Sciences, Univ. of Wisconsin; grad 5/07, Masters)  
Emilie Schwartz (Department of Nutritional Sciences, Univ. of Wisconsin, grad 12/08, Masters)  
Megan Baumler (Department of Nutritional Sciences, University of Wisconsin)  
Carol Fassbinder-Orth (Department of Zoology, University of Wisconsin, grad 5/08)  
Shana Lavin (Department of Wildlife Ecology, University of Wisconsin, grad 5/07)  
Xiaowen Liu (Department of Nutritional Sciences, University of Wisconsin, grad 12/08)  
David Nelson (Department of Nutritional Sciences, University of Wisconsin, grad 5/07)  
Noah Zimmerman (Comparative Biomedical Sciences, Univ. of Wisconsin; grad 12/03)  
Michelle Skopec (Department of Nutritional Sciences, University of Wisconsin; grad 12/03)  
Mohammed Alkahtani (Department of Zoology, University of Wisconsin; grad 7/02)  
Elizabeth Dahly (Dept. of Nutritional Sciences, University of Wisconsin; grad 7/02)  
Perry Chang (Department of Wildlife Ecology, University of Wisconsin; grad 2002)  
Jae-Sung Kim (Veterinary Science Graduate Program, Univ. of Wisconsin; grad 11/99)  
Melanie Gillingham (Dept. of Nutritional Sciences, University of Wisconsin; grad 9/00)  
Karen Birgit Bach (Neuroscience Training Program, University of Wisconsin; grad. 5/97)  
Michael Dwinell (Veterinary Science Graduate Program, University of Wisconsin; grad 9/96)  
Hilary Sreere (Department of Cell and Structural Biology, Univ. of Colorado; grad. 2/95)  
Danny Afik (Department of Wildlife Ecology, University of Wisconsin; grad. 8/94)

**Honors and Awards:**

1993            Scholander Lecturer  
                  Comparative Physiology Section, American Physiological Society  
1986            Postdoctoral Research Award  
                  Gastrointestinal Section, American Physiological Society

1985	Caroline tum Suden Professional Opportunity Award American Physiological Society
1983-1986	National Institutes of Health Postdoctoral Fellowship (NRSA)
1979-1983	Graduate Fellowship, University of California, Davis
1979	Association for Women in Science Scholar
1976	Phi Beta Kappa
1973-1977	New York State Regents Scholarship
1973-1977	Quarter Century Club Scholarship, Manufacturers Hanover Trust Co.
2007-2008	President, American Physiological Society
2008	Fellow, American Gastroenterological Association

**Professional Societies:**

American Physiological Society, 1984  
American Gastroenterological Association, 1986

**Department of Comparative Biosciences Committees:**

Annual Merit Review Committee (1/96-1/98)  
Research and Recreation Day Committee  
Faculty Candidate Search and Screen Committees (1999, **Chair** in 2001)  
Chair of Mentor Committee for Dr. Jyoti Watters, assistant professor (2002-present)  
Mentor Committee for Dr. Stephen Johnson, assistant professor (2002-present)  
Annual Review Committee (2006-2008)  
Search Committee, Pharmacology Position (2007)

**School of Veterinary Medicine Committees:**

Academic Planning Committee (1996)  
Animal Care and Use Committee (7/1/90 - 8/31/94); **Chair**, 1993-1994  
Animal Care and Use Committee (9/1/05 - present); **Chair**, 8/1/09-present  
Library Committee (9/1/89-8/31/96, **Chair** 1990-1996)  
Search and Screen Committee for Dean, School of Veterinary Medicine (10/93-6/94)  
Histopathology Committee (10/1/89-8/31/92)  
Safety Committee (10/1/89 - 8/31/92)  
Student Appeals Committee (9/1/94-6/30/98; 9/1/00-present)  
Ad hoc Committee to review SVM Clinical Track Guidelines (9/95-9/96)  
Scholarships, Loans and Awards Committee (member 1998-99; **Chair**, 1999-2002)  
Comparative Biomedical Sciences Graduate Program Executive Committee (2000 –2005)  
Comparative Biomedical Sciences Marsh Award Review Committee (2001-2003)  
Dean's Advisory Committee on Promotions and Appointments (2001-2004)  
Veterinary Medical Program Admissions Committee (2002 – 2004)  
SVM Animal Care and Use Committee (2005 – present; Assoc. Chair, 2006-present)  
Academic Planning Committee (2005-2006)  
SVM Seminar Series co-organizer (2004-2006)

**University Committees:**

Search and Screen Committee for Chief Veterinarian, UW-School of Medicine (1995)  
All Campus Animal Care and Use Committee (10/1/93-8/31/94)  
UW-Women Faculty Mentoring Program, mentor for Dr. Christine Ribic (1996-1998)

UW-Women Faculty Mentoring Program, mentor for Dr. Hui-Chan Lai (2003-present )  
UW Women Faculty Mentoring Program Advisory Board (1996-1997)  
Graduate School Research Committee (1997-1998)  
Biotron Committee (1997- present)  
Faculty Senator (9/96-9/99; alternate 2000, 2001)  
Search and Screen Committee for Biotron Manager (1999)  
Biological Sciences Divisional Committee (Promotion and Tenure) (1999-2002)  
Search and Screen Committee for Gastroenterology Division Chief, UW Medical Sch (1999-2000)  
Search and Screen Committee for Dean of the Graduate School (2002)  
Biological Sciences Strategic Planning Committee (2004-2006)  
Institutional Nominations and Internal Competitions Committee (2007, 2009-2011)

**State Committees:**

Wisconsin Association for Biomedical Research and Education (WABRE),  
Madison Chapter Steering Committee Member, (1990-1993)  
Board of Directors (1995-present); Treasurer (2000-2005); **President**, 2005-2008

**National Committees:**

*American Physiological Society:*

Committee on Women in Physiology (1987-1993; **Chair**, 1990-1993)  
Participant in Women in Physiology Mentoring Program (1994-1998)  
Task Force on Membership (1992-1993)  
Membership Committee (1994-1996; **Chair**, 1995-1996)  
Gastrointestinal and Liver Section Steering Committee (1993-1996); **Chair** (1997-1999);  
**Past-Chair** (1999-2002)  
Represented GI section on APS Section Advisory/Nominating Committee (1994; 1996-1999)  
Member of APS Council (1999-2002)  
**Chair**, Task Force on Communications/Public Relations (2000-2001)  
Committee on Committees (2001-2003; **Chair**, 2002-2003)  
Communications Committee (2003-present; **Chair**, 2005-present)  
US Scientific Programming Committee for IUPS 2005 Congress (2003-2005)  
International advisory board for planning IUPS 2009 Congress in Kyoto, Japan  
**President**, 2007; Executive Cabinet, 2006-2009  
Member, US National Committee to IUPS, 2007-2010  
Member, IUPS Commission V Secretion and Absorption, GI Section, 2007-2009  
Co-Organizer, APS Workshop on Physiological Research, Integration, Synthesis and  
Modeling (2007)  
Book Committee (2007-present)  
Daggs Award Committee (2009- present)

*FASEB*

Excellence in Science Award Committee  
(1991-1993; **Chair**, 1992-1994)

*American Gastroenterological Association*

AGA Council, Nutrition and Obesity Section (2001-2005; **Chair**, 2003 – 2005)  
Ten-Year Research Plan Task Force (2001)

Committee on GI Research (2000-2003)  
AGA Career Development Program, **Chair** (1996-1998)  
Women in Gastroenterology Committee (1994-1998)  
Task Force on Ph.D., MD/Ph.D and DVM Membership (1994-1997)  
Abstract Selection Committee, Intestinal Transport Section (1993-1995); **Chair** (1994-1995)  
Abstract Selection Committee, Mucosal Growth Factors (1998; **Chair**)  
Participant in Career Development Program Mentoring Program (Dr. Keri Kles, 2002-2004)  
Member, Working Group, National Commission on Digestive Diseases (2006-2007)  
Chair, Nutrition and Obesity Section Nominating Committee (2007)

*Gastrointestinal Research Group*

*ex officio* liaison with American Physiological Society (1995-1996)  
Steering Committee member (1997-2000)

**Other Service/Committee Participation:**

Mentor for NIDDK Minority Fellowship Program, American Physiological Society (1990,1992)  
Invited Participant in Workshop on "Women in Biomedical Careers, Strategies for the 21st Century", NIH Office for Research on Women's Health, June, 1992  
Judge for Student Presentations, Scholander Award Competition , Comparative Physiology Section of American Physiological Society, Experimental Biology '94  
Participant in Women in Physiology Mentoring Program, American Physiological Society:  
Mentor for Dr. Colleen Talbot  
Invited Participant in "*Molecular, Functional and Evolutionary Approaches to Stress and Inducible Stress Responses: Bridging the Gaps*". Workshop sponsored by the National Science Foundation, Arlington, VA, May 13-15, 1996  
Member of External Review Committee, Section of Physiology, Cornell University, April 1999  
Invited Participant, APHS Workshop on Chronic Intestinal Pseudo-obstruction, Newport Beach, CA, March 26-28, 2000  
Invited Participant, Defense Advanced Research Projects Agency (DARPA) Workshop on "Metabolic Engineering for Cell Stasis", Washington DC, February 24-26, 2000  
Invited Participant, DARPA Workshop "Engineering Hypometabolic States in Humans: Applications of Lessons Derived from Natural Hibernation", Washington DC, May 18-19, 2000  
Invited Speaker at GI Training Directors Workshop, March 24, 2001, Dallas, TX. "Effective Mentoring: Update on Status of Existing Programs"  
Member of External Advisory Committee, Program on Integrative Approaches to Environmental Physiology, University of Alaska, 2001-2006.  
Invited Participant and co-organizer, DARPA Workshop: "Integrative Technologies for Hypometabolic Engineering", Breckenridge, CO, October 20-24, 2002  
Judge for Student Presentations, Scholander Award Competition, American Physiological Society Intersociety Meeting on Comparative Physiology, August 24-28, 2002, San Diego  
External examiner for Ph.D. defense of Michele Buresi, Mucosal Inflammation Research Group, University of Calgary, July 2, 2003  
Co-organizer and co-editor of book for Life in the Cold: Twelfth International Hibernation Symposium, Vancouver, BC – Seward, AK, July 25 – August 1, 2004.  
Invited Participant, DARPA Workshop: "Intestinal Fortitude", Washington, DC Dec 1-2, 2004  
Invited Participant, DARPA Workshop: "Radiation Protection", Wash, DC Dec 14-15, 2004

Co-organizer and Participant, Workshop on “Physiological Research, Integration, Synthesis and Modeling”, Santa Barbara, CA March 17-19, 2007

Provided oral testimony to US House of Representatives Appropriations Subcommittee on Labor-HHS-Education on NIH funding, March 27, 2007 and House Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies on NSF and NASA funding, April 24, 2007.

**Editorial Board Membership:**

Editor, *Journal of Comparative Physiology B* (January 2005-present)

Editorial Board, *Physiology*

Advisory Board, *Comprehensive Physiology* (2009-present)

Editorial Board, *Am. J. Physiol.: Gastrointestinal and Liver Physiol* (2003-present)

*Faculty of 1000: Gastrointestinal Physiology Faculty* (March 2005 – present)

Advisory Board, *Journal of Comparative Physiology B* (1997-2004)

Editorial Board, *Physiological Zoology* (1994-1999)

Staff of Contributors, *Gastroenterology* (Selected Summaries section) 1995-1998

Editorial Board, *Am J Physiol:Regulatory, Integrative and Comparative Physiol* (1993-1996)

**Ad hoc Referee:**

*American Journal of Physiology: Gastrointestinal and Liver Physiology*

*American Journal of Physiology: Regulatory, Integrative and Comparative Physiology*

*American Journal of Physiology: Cell Physiology; Journal of Applied Physiology*

*Physiological Genomics; Journal of Physiology; J. Pharmacology and Experimental Therapeutics*

*Gastroenterology; Gut; Digestive Diseases and Sciences; Journal of Clinical Investigation;*

*Journal of Cellular Physiology; Journal of Leukocyte Biology; Free Radical Biology and*

*Medicine; Free Radical Research; Plos One; Journal of Experimental Zoology; Comparative*

*Biochemistry and Physiology; Journal of Experimental Biology; European J. Surgery; Autonomic*

*Neuroscience; Canadian J. Physiology and Pharmacology; Biochimica et Biophysica Acta; Proc*

*Society for Experimental Biology and Medicine; High Altitude Medicine & Biology; Growth*

*Factors; American Journal of Veterinary Research; J.Dairy Science; American Zoologist;*

*Journal of Mammalogy; Ethology; Ecology and Evolution; Ecoscience; Biological*

*Bulletin; Cornell Veterinarian; Holarctic Ecology; Oecologia*

**Grant reviews:**

National Institutes of Health Special Study Section (NHLBI) Member, 2002

National Space Biomedical Research Institute (NSBRI ) Panel Member, 2000

NSF Ecological and Evolutionary Physiology Panel Member, 1998

NSF Special Emphasis Panel in Biological Sciences - Multidisciplinary, 4/97-3/98

NSF Div. of Integrative Biology and Neuroscience Program (ad hoc reviewer), 1994-present

NSF Division of Environmental Biology (ad hoc reviewer), 1997-present

USDA National Research Initiative Competitive Grants

Wellcome Trust

UW-School of Veterinary Medicine Food Animal and Companion Animal Research Awards

Maryland Department of Natural Resources

Army Research Office, Department of Defense

Netherlands Organization for Scientific Research

**Invited Lectures:**

- 1983 Department of Biology, University of Nevada, Reno
- 1984 Department of Biology, University of Nevada, Las Vegas  
Department of Physiology, University of Goteborg, Sweden
- 1986 Department of Zoology, Ohio State University, Columbus
- 1987 Department of Oral Biology, Ohio State University, Columbus
- 1988 Department of Physiology and Biophysics, University of Louisville  
Department of Biological Sciences, Wright State University
- 1990 Gastrointestinal Research Group, University of Calgary Nutrition and Metabolism  
Group, University of Alberta  
Department of Meat and Animal Science, University of Wisconsin
- 1991 Department of Medicine, University of Wisconsin Medical School  
Department of Physiology, University of Arizona, Tucson  
Department of Biology, University of Wisconsin-Stevens Point
- 1992 Hepatobiliary Group, University of Colorado Health Sciences Center  
Gastroenterology Division, Dept. of Medicine, Univ. of Wisconsin Medical School  
Department of Physiology and Biophysics, University of Tennessee  
Department of Physiology and Biophysics, University of Alabama  
Department of Physiology, University of Wisconsin, Madison
- 1993 Department of Environmental, Population and Organismal Biology, University of  
Colorado-Boulder  
Gastroenterology Division, Dept. of Medicine, Univ. of Wisconsin Medical School
- 1994 Department of Cellular and Structural Biology, University of Colorado Health  
Sciences Center, Denver  
Experimental Biology '94, symposium on Molecular Advances in the Study of  
Hibernation
- 1994 Gastroenterology Division, Dept. of Medicine, University of Wisconsin Medical School  
Department of Biology, University of Wisconsin-Whitewater  
American Physiological Society meeting on "Regulation, Integration, Adaptation: A  
Species Approach
- 1995 Department of Pediatrics, University of Wisconsin Medical School  
Department of Veterinary Pathobiology, Univ. Minnesota Coll. of Veterinary Medicine  
Department of Nutritional Sciences, University of Wisconsin-Madison  
Gastroenterology Division, Dept. of Medicine, University of Wisconsin Medical School  
Department of Physiology and Pharmacology, Univ. of South Dakota Medical School
- 1996 Capitol Gut Club-Madison WI  
Motility Interest Group, University of Wisconsin Division of Gastroenterology  
Department of Pharmacology and Toxicology, Michigan State University  
Gastroenterology Division, Dept. of Medicine, University of Wisconsin Medical School
- 1997 Experimental Biology '97, American Physiological Society Comparative Section, Hot  
Topics in Comparative Physiology: Gastrointestinal  
Section of Digestive and Liver Diseases, Department of Medicine, University of Illinois  
Chicago Medical School  
Inflammatory Bowel Disease Center, Department of Medicine, University of Chicago  
School of Medicine  
Gastroenterology Division, Dept. of Medicine, University of Wisconsin Medical School
- 1998 Department of Physiology, University of California-Los Angeles

- Department of Nutritional Sciences, University of California-Berkeley  
Department of Biology, California State University-Hayward  
Experimental Biology '98, American Physiological Society Gastrointestinal Section,  
symposium speaker: "Effects of Fasting on Intestinal Secretion"
- 1999 Society for Integrative and Comparative Biology Annual Meeting, speaker  
in symposium on "Ecological and Evolutionary Implications of Heat Shock Proteins"  
Department of Physiology and Biophysics, Chicago Medical School  
Division of Digestive Disease and Department of Pharmacology, Ohio State University  
Department of Zoology, University of British Columbia
- 2000 Division of Gastroenterology, Washington University School of Medicine  
Dept. of Pathology and Laboratory Medicine, Univ. of Cincinnati College of Medicine  
Division of Gastroenterology, University of Wisconsin School of Medicine  
Department of Pediatrics Grand Rounds, University of Wisconsin School of Medicine  
Department of Biomedical Sciences, Cornell University College of Veterinary Medicine  
Veterinary Science Seminar Series, University of Wisconsin-Madison
- 2001 Institute of Arctic Biology, University of Alaska-Fairbanks
- 2002 Army Institute of Surgical Research, Fort Sam Houston, San Antonio, TX  
American Physiological Society Intersociety Conference on Comparative Physiology:  
Evolution, Adaptation and Application (San Diego, Aug 24-28)
- 2003 Department of Biological Sciences, University of Alabama-Tuscaloosa  
Division of Gastroenterology and Hepatology, UW-Madison School of Medicine  
Mucosal Inflammation Research Group, University of Calgary  
Department of Physiology, University of Alberta, Edmonton  
Department of Biology, University of Minnesota Duluth  
Digestive Disease Week, Amer. Gastroenterological Assoc. Symp. on Oxidative Stress
- 2004 Div. of Gastroenterology, Hepatology and Nutrition, Univ of Pittsburgh Medical Sch.  
Division of Gastroenterology and Hepatology, Univ Texas Medical Branch-Galveston  
Life in the Cold 2004, Biomedical Applications of Hibernation (speaker and chair)  
Department of Biology, Philips University, Marburg Germany  
Department of Biology, Brock University, St. Catherine's, Ontario, Canada
- 2005 University of Wisconsin School of Veterinary Medicine Seminar Series  
National Association of Biology Teachers National Meeting, Milwaukee WI
- 2006 McMaster University Intestinal Disease Research Program, Hamilton, Ontario, Canada  
Department of Wildlife Ecology, University of Wisconsin-Madison  
Institute of Arctic Biology, University of Alaska-Fairbanks  
Physiological Ecology Meeting, White Mountain Research Station, Bishop, CA  
Div of Digestive Diseases and Nutrition, Univ Illinois Chicago College of Medicine  
Dept of Biomedical Engineering, Michigan Technological University, Houghton, MI  
Respiratory Neurobiology Seminar Series, University of Wisconsin-Madison  
APS Intersociety Conference on Comparative Physiology, VA Beach, VA
- 2007 Dept of Physiology and Biophysics, Univ of Cincinnati School of Medicine  
Experimental Biology 2007, Symposium Speaker  
Dept of Physiology, LSU Health Sciences Ctr and Tulane University, New Orleans  
FASEB Summer Research Conference: Gastrointestinal Tract XII  
Department of Pathology, Emory University, Atlanta GA  
Department of Integrative Physiology, University of Colorado – Boulder, CO

- 2008 Department of Biology, Williams College, Williamston, MA  
College of Veterinary Medicine, Washington State University, Pullman, WA  
Experimental Biology 2008, Symposium Chair and Speaker, Physiology InFocus  
Canadian Society of Zoologists Annual Meeting, Symposium Speaker  
13<sup>th</sup> International Hibernation Symposium, Swakopmund, Namibia  
Beijing Joint Conference of Physiological Sciences 2008, Symposium Speaker  
Department of Forensic Medicine, Xi'an Jiaotong University, Xi'an, China  
School of Medicine, University of Groningen, The Netherlands  
Department of Biology, University of Groningen, The Netherlands  
Institute of Biological and Environmental Sciences, University of Aberdeen, Scotland
- 2009 Department of Nutritional Sciences, University of Wisconsin-Madison  
Department of Pharmacology, Medical College of Wisconsin  
Department of Biology, University of Wisconsin-Stevens Point

**Grant Support:**

**Pending:**

*Impact of Hibernation on Gut Microbiota, Substrate Metabolism and Host Responses*

Hannah V. Carey, P.I.; Resubmission to National Science Foundation 8/3/09

Total direct costs for 3 years: \$302,418

**Previous Funding: Extramural**

*Translating the Hibernation Phenotype to Human Trauma Care*

Defense Advanced Research Projects Agency (USARO) W81XWH-05-2-0016

H.V. Carey, P.I.; Co-Investigator: S.L. Martin (Univ Colorado)

1/5/05 – 10/31/07; Total direct costs to Carey lab: \$655,343

*Hibernation: Natural Metabolic Engineering of Organ Tolerance to Extreme Conditions*

Defense Advanced Research Projects Agency (DOD) N66001-02-C-8054

H.V. Carey, P.I.; J.H. Southard and S.L. Martin, co-investigators

7/1/02- 12/31/04; Direct costs to Carey Lab: \$228,810

*The Adaptive Response to Intestinal Oxidative Stress in Mammalian Hibernation*

H.V. Carey, P.I.

Department of Defense, Army Research Office. DAAD190110455

4/1/01 – 6/30/04; Total direct costs: \$262,908

*Development of a Piglet Model for Necrotizing Enterocolitis*

Hannah V. Carey, P.I.; Wyeth-Ayerst Nutritionals. \$70,000 for period: 1/1/02-6/30/04

*Imaging Microscopy System for the Study of Stress Tolerance in Hibernating Organs*

Department of Defense Request for Instrumentation Proposal

Hannah V. Carey, P.I.; James H. Southard, co-P.I.

2/13/02-2/12/03 Total cost (all direct) \$89,455

*Hibernation and the Stress Response*

National Science Foundation IBN-9723860 (7/1/97-6/30/01)(one yr extension); \$193,348

*Validation of hypoxic challenge model for study of intestinal dysfunction after hypoxia-induced intestinal ischemia*

Wyeth-Ayerst Nutritionals (\$10,000, 7/99-8/00)

*Mechanisms of Fasting-induced Hypersecretion in Piglet Intestine*

USDA NRICGP 93-37206-9222

11/1/93-8/31/96 (no-cost extension until 8/98) (\$210,000 total direct costs)  
*Regulation of Intestinal Function in a Mammalian Hibernator*  
National Science Foundation IBN-9306813  
7/15/93-6/30/97 (\$179,237 total direct costs)  
*The Role of IGF-I in Intestinal Glucose Absorption*  
National Institutes of Health NRSA  
Principal Investigator A.N. Alexander, DVM  
H.V. Carey was faculty sponsor for this award (5/1/97 - 4/31/00); \$96,600 total  
*Intestinal Function in a Hibernator: Adaptive Changes*  
NIH FIRST Award, R29 DK39668, 1987-1992 (\$350,000)  
*Intestinal Bypass Surgery in Hibernation*  
NIH RO1 DK38104, 1987-1990 (\$154,000); H.J. Cooke, PI, H.V. Carey, Co-Investigator  
*Neural Control of Mucosal Function in Megacolonic Mice*  
NIH NRSA, F32 AM07301, 1/16/84 - 1/16/87  
*Role of Prostaglandins in E.coli-induced Diarrhea in Piglets.*  
Wisconsin Pork Producers. 7/1/93-6/30/94 (\$2,500)  
*The Role of Glutamine in Prevention of Fasting-Induced Diarrhea in Piglets*  
Wisconsin Pork Producers, 1991-1993 (\$3,000)

**Previous Funding: Intramural**

*The Role of the Transcription Factor NF- $\kappa$ B in the Pathogenesis of Neonatal Porcine Enteric Disease* UW- SVM Food Animal Research Award, H.V. Carey, P.I. 7/1/01-6/30/02; \$10,000  
*Use of Oral IGF-I to Stimulate Intestinal Glutamine Absorption in Neonatal Pigs*  
SVM Food Animal Research Award (6/1/98-6/30/99, \$6,962)  
*Department of Comparative Biosciences "Innovative Proposal"*  
Funds to support research leave to study stress protein biology, 3/1/98-11/1/98, (\$9,200)  
*Oral IGF-I and intestinal nutrient uptake in neonates*  
University of Wisconsin Graduate School (7/1/98-6/30/99, \$11,000)  
*Does cortisol play a role in fasting-induced changes in epithelial function in piglet intestine?*  
University of Wisconsin School of Veterinary Medicine  
Food Animal Research Award 7/1/96-6/30/97 (\$6,750)  
*Interactions between cholinergic and tachykinin pathways in the regulation of intestinal secretion*  
University of Wisconsin Department of Pediatrics, J.A.S. Blumenthal, Co-investigator  
Research and Development Funds 8/1/95-7/30/96 (\$4,700)  
*Oral EGF as a therapeutic tool for piglet diarrheal disease*  
University of Wisconsin School of Veterinary Medicine  
Food Animal Research Award 7/1/95 - 6/30/97 (\$5,000)  
*Mechanisms of E.coli-Induced Intestinal Secretion*  
SVM Food Animal Research Award 7/1/93 - 6/30/94 (\$5,000)  
*Nutritional Management of E. coli-induced Diarrhea: Physiology and Clinical Relevance.*  
University of Wisconsin Hildale Research Award 7/1/93-9/30/94 (\$20,000)  
*Regulation of Intestinal Ion Transport by Luminal Nutrients.*  
University of Wisconsin Graduate School, 1993- 1994 (\$16,077)  
*Intestinal Function in a Hibernator: Adaptive Changes*  
University of Wisconsin Graduate School, 7/1/92- 6/30/93 (\$15,570)  
*Intestinal Function in a Hibernator: Adaptive Changes*

University of Wisconsin Graduate School, 7/1/91- 6/30/92 (\$16,855)  
*Early Weaning Diarrhea in Piglets: Effects of Luminal Nutrition on Intestinal Secretion.* SVM Food Animal Research Award 7/1/91-6/30/92 (\$7,900)  
*Neural Mechanisms Mediating Post-weaning Diarrhea in Piglets*  
SVM Food Animal Research Award 7/1/90-6/30/91 (\$8,500)

### Refereed Articles:

1. Cooke, H.J. and **H.V. Carey**. 1984. The effects of cisapride on serotonin-evoked mucosal responses in guinea-pig ileum. *European J. Pharmacology* 98:147-148.
2. Cooke, H.J. and **H.V. Carey**. 1985. Pharmacological analysis of 5-Hydroxytryptamine actions on guinea-pig ileal mucosa. *Eur. J. Pharmacology* 111:329-337.
3. **Carey, H.V.** 1985. The use of foraging areas by yellow-bellied marmots. *Oikos* 44(2):273-279.
4. **Carey, H.V.** 1985. Nutritional ecology of yellow-bellied marmots in the White Mountains of California. *Holarctic Ecology* 8:259-264.
5. **Carey, H.V.**, H.J. Cooke and M. Zafirova. 1985. Mucosal responses evoked by stimulation of ganglion cell somas in the submucosal plexus of the guinea-pig ileum. *J. Physiol.* 364:69-79.
6. **Carey, H.V.**, H.J. Cooke, P.R. Nemeth, D.H. Zafirov and J.D. Wood. 1985. Nerve-mediated action of forskolin on guinea-pig ileal mucosa. *Experientia* 41(9):1156-1158.
7. **Carey, H.V.** and H.J. Cooke. 1986. Submucosal nerves and cholera toxin-induced secretion in guinea pig ileum in vitro. *Digestive Diseases and Sciences* 31(7):732-736.
8. **Carey, H.V.** and P. Moore. 1986. Foraging and predation risk in yellow-bellied marmots. *Amer. Midl. Natur.* 116(2):267-275.
9. Cooke, Helen J., M. Zafirova, **H.V. Carey**, J.H. Walsh and J. Grider. 1987. VIP actions on the guinea pig intestinal mucosa during neural stimulation. *Gastroenterology* 92:361-370.
10. **Carey, H.V.**, X.Y. Tien, L.J. Wallace and H.J. Cooke. 1987. Muscarinic receptor subtypes mediating the mucosal response to neural stimulation of guinea pig ileum. *Am. J. Physiol.* 253 (*Gastrointest. and Liver Physiol.* 16): G323-G329.
11. Kuwahara, A., H.J. Cooke, **H.V. Carey**, C. Condon, H. Mekhjian, E.C. Ellison, and B. McGregor. 1989. Stimulation of enteric neurons: effects on chloride transport in human left colon in vitro. *Digestive Diseases and Sciences* 34:206-213.
12. **Carey, H.V.**, H.J. Cooke, W.T. Gerthoffer and L.W. Welling. 1989. Alterations in jejunal absorptive function in megacolon mice. *Digestive Diseases and Sciences* 34:185-192.
13. **Carey, H.V.** and H.J. Cooke. 1989. Tonic activity of submucosal neurons influences basal ion transport. *Life Sciences* 44:1083-1088.
14. **Carey, H.V.** and H.J. Cooke. 1989. TRH evokes chloride secretion via cholinergic pathways in the guinea-pig ileum. *Eur. J. Pharmacol.* 160:183-186.
15. **Carey, H.V.** and H.J. Cooke. 1989. Neuromodulation of intestinal transport in the suckling mouse. *Am. J. Physiol.* 256 (*Regul. Integr. Comp. Physiol.* 25): R481-R486.
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### **Outreach Presentations to Schools and Community Groups, and Media Contacts:**

- July 18, 1991: Spoke on the use of animals in biomedical research to the UW Milwaukee--Young Scholars Group (secondary school children) at the UW Primate Research Center.
- January, 1992 presentation on "Use of Animals in Biomedical Research" to Towerpoint Senior Citizens Community, Mesa, Arizona
- March 26, 1992: Presentation to the UW Arboretum natural history guides' Natural Enrichment Program. Title: "Hibernation Biology and Local Hibernating Species"
- July 7, 1992: Presentation to grade school children at Fort Atkinson Public Library as part of the "Summerquest" Library Summer Program. I spoke on "Hibernation". The talk also included a discussion on choosing a career as a research scientist.
- September 11, 1992: Presented talk on "Digestive Capacity During Hibernation" at 19th Annual Interbranch Meeting of the American Association of Laboratory Animal Science, Madison.
- October 29, 1992: Presented talk entitled "Hibernation: or How to Avoid the Winter Without Really Trying" to Sixty-Plus Club, Madison.

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- March 1993 and 1994: Presentation on "The Biology of Hibernating Animals" for the Junior Science, Engineering and Humanities Symposium
- April 10, 1993: interviewed by Jason Schultz, an undergraduate at UW-Stevens Point, for a biology class "Career Development in the Biological Sciences"
- April 29, 1993: presentation on hibernation at Madison Lakeview School's program on "Adult Role Models in Science", to grade school children, parents and teachers.
- May 2, 1993: Presentation on hibernation research to the Wisconsin Student Association of Veterinary Technicians, McKenzie Center, Poynette, WI.
- January 11, 1994, presentation at Luther Memorial Church seniors group (Madison) titled: "How to Survive the Winter Without Really Trying"
- January 13, 1994, talk at Madison-Monona Kiwanis, on "Use of Animals in Biomedical Research"
- October 7, 1994, Presentation of Biology Colloquium at University of Wisconsin, Whitewater.  
Title: "Gut Feelings about Hibernation"
- October 4, 1994, appeared on local Madison television station, discussing research on diarrheal diseases in our laboratory in preparation for Biomedical Research Day (Oct. 12).
- January 1995, research highlighted in "Research update" section of the journal *BioScience*, vol. 45, pp 1-11, aimed at undergraduate and high school biology teachers
- University of Wisconsin-Stevens Point Intersession program, sponsored undergraduates in 1991, 1992 and 1994 to carry out research for 2-3 week periods
- 1990- 1994, sponsored students for University of Wisconsin School of Veterinary Medicine Summer Research Apprentice Program, for minority undergraduates to carry out research for 8 weeks in the laboratory.
- Spring, 1995, panelist in discussion on the use of animals in biomedical research, organized by Alternatives in Animal Health Care Club, UW-School of Veterinary Medicine.
- Aug. 17, 1995, presentation to Waunakee Rotary Club on research program in my laboratory.
- February 9, 1996: Presentation on hibernation to Baraboo Junior High School Science Club
- Oct. 22 and 23, 1996: Presentation and led discussion on searching for academic positions and negotiating for jobs, as part of an informal course entitled "Good Practices in Science: Research Ethics & Survival Skills" offered by the School of Veterinary Medicine.
- December 6, 1996: Presentations (4 classes) to 7th grade science classes at Radnor Middle School, Radnor PA. Topics included hibernation ecology and physiology, and discussion of science careers.
- October 19, 1997: "Expanding Your Horizons": conference: 1-h period talking with 7<sup>th</sup> and 8<sup>th</sup> grade girls about careers in science.
- January 7, 2000: interviewed by Earthwatch Radio for segment on "Self Storage for Survival"
- February 1, 2000: interviewed by Discovery Online about Hibernation
- March 5, 2001: Provided a "Research Explorations" experience on hibernation biology for 8 UW-Madison undergraduates.
- Summer, 2001: Served as a mentor in the UW Summer Science Institute, providing a mentored experience for two high school minority students for 7 weeks.
- January 29, 2002: Interviewed for Channel 15, NBC affiliate in Madison, WI for segment in their Health Topics series on hibernation research and implications for organ preservation.
- 2002: Interviews on hibernation/organ preservation with ABCnews.com; Badger Herald; Northeast Public Radio; Wisconsin State Journal; Milwaukee Journal-Sentinel; and a pickup of one or more of those articles appeared in the London Times.

- January 19, 2003: Presentation on hibernation to elementary school children in two Fort Atkinson schools through their “Gifted and Talented Education” program (Barrie School and Rockwell School)
- October 15, 2003: Interviewed for article on hibernation for the Minneapolis Star Tribune.
- October 11, 2003: Interviewed for article on hibernation for the educational website the “WhyFiles” (whyfiles.org).
- October 20, 2003: Interviewed for article on hibernation that appeared in *The Scientist*.
- October, 2003: Interviewed for article on hibernation that appeared in the Swedish morning newspaper, Dagens Nyheter,.
- December, 2003: Interviewed by Earthwatch Radio for two segments on hibernation that aired the weeks of January 5 and January 26, 2004.
- March 11, 2004: Presentations on hibernation to elementary school children in two Fort Atkinson schools through their “Gifted and Talented Education” / Extended Learning program ((Luther and Purdy Elementaries).
- October 8, 2005: Plenary Speaker at National Association for Biology Teachers (sponsored by the American Physiological Society); topic: “The Active Life of a Hibernator: Nature’s Physiology Lesson”.
- November 29, 2005: Presentation on hibernation and biomedical applications at Harbor Village Senior Residences, Greendale, WI.
- 2005: Media interviews in 2005, all related to hibernation and potential for translating insights from hibernation to improvements in human and animal medicine:  
“Live at 5” local CBS TV affiliate filmed hibernators and I discussed hibernation research  
Provided quote on translating hibernation biology to human medicine in May 23, 2005 issue of US News and World Report  
Quoted in Science News, April 23, 2005  
Our work on gut physiology in hibernators and photos of squirrels appeared in Science issue highlighting the gut March 25, 2005  
Quoted several times and our liver preservation work mentioned in article in Science Section of Boston Globe, May 24, 2005
- May 26, 2005: Columnist Doug Moe of Madison Capital Times described our work and news quotes in his column
- May 2005: Interviewed by reporter for brief article on hibernation for Outside Magazine
- Fall, 2005: Interviewed for article on human applications of hibernation for *New Scientist*,; article on “Human Hibernation” ran as cover story for January 21, 2006 issue.
- January 12, 2006: Taped a segment for Canadian Broadcasting Corporation’s science radio show, “Quirks & Quarks” on hibernation; segment aired February 11, 2006.
- January 23, 2006: Interviewed by science writer for USA Today article “Hibernation could help humans too”.
- January 29, 2006: Interviewed by science writer for Dallas Morning News Article “Warming up to the science of being out cold”.
- February 1, 2006: Interviewed by science writer for Pittsburgh Post-Gazette for article on “Hibernation mechanism is energy-saving tactic that may slumber in people”
- February 2, 2006: Interviewed by science writer for St. Louis Post-Dispatch article “Let’s Sleep On It”.

- February 27, 2006: Presentation on hibernation physiology and biomedical applications to 7<sup>th</sup> grade class of Loyaltan Middle School, Loyaltan, CA.
- April 13, 2006: Wisconsin State Journal "Curiosities" column; "Why do some animals hibernate?"
- September 27, 2006: UW-Washington County, Science and Math Club: "The Active Life of a Hibernator: Nature's Physiology Lesson"
- November 11, 2006: "Expanding Your Horizons": conference: 1-h period talking with 6 - 8<sup>th</sup> grade girls about hibernation and careers in science.
- January 24 and 30, 2007: Presentations on hibernation to preschoolers at Pre School of the Arts (Madison, WI) and our laboratory.
- January 27, 2007: Science News article "Perchance to Hibernate: Can we tap a dormant capacity to downshift our metabolism?" included mention of our work on hibernation and applications to biomedicine.
- January 23 and 24, 2007: Filming and interviews done in our lab shown as part of the National Geographic Channel Documentary, "The Science of Winter"
- April 22, 2007: Call-in Live Radio Program "Noticing Nature", Michigan Technological University WMTU
- May 23, 2007: Wednesday Nite at the Lab Public Lecture on "Hibernation: Nature's Physiology Lesson". UW-Madison Biotechnology Center
- September, 2007: Article in Wisconsin State Journal on hibernation and biomedical applications.
- January 18, 2008: Presentation on hibernation to 2<sup>nd</sup> graders at Shorewood Elementary School, Madison WI
- February 1, 2008: Interviewed for MSNBC website article "How animals gauge the weather"
- February 22, 2008: Interview for Forbes magazine article on "Unlocking the secrets of hibernation"
- March 2008: Taped segment on hibernation for KVMR radio (Northern California).
- July, 2008: Public lecture for Kemp Natural Resources Station Outreach Program, Woodruff, WI
- February 17 and 24, 2009: Presentations on hibernation to preschoolers at Pre School of the Arts (Madison, WI) and our laboratory.
- November 7, 2009: "Expanding Your Horizons": two sessions with 7<sup>th</sup> and 8<sup>th</sup> grade girls talking about careers in science and research in the Carey Lab.