

## CURRICULUM VITAE (4/1/2000)

### Personal Data

Name: Helen Joan (Radowicz) Cooke

**Address Work:** Dept. Neuroscience  
333 W. Tenth Ave.  
Ohio State Univ.  
Columbus, OH 43210  
Phone: 614-292-5660  
FAX: 614-688-8327

### Education

1965 B.S. University of Massachusetts, Amherst, Zoology  
1967 M.S. University of California, Los Angeles, Physiology  
1971 Ph.D. University of Sydney, Sydney, Australia, Physiology  
1991 Recombinant DNA Course, Ohio State University  
1993 Molecular Cloning of Neural Genes Course, Cold  
Spring Harbor, July 5-25

### Academic Appointments

|       |           |                        |   |  |
|-------|-----------|------------------------|---|--|
| *Oct. | 1971-1973 | Instructor             | Department of Physiology and Biophysics<br>The University of Iowa |  |
| *July | 1973-1976 | Assistant<br>Professor | Department of Physiology and Biophysics<br>The University of Iowa |  |
| *Sept | 1976-1980 | Assistant<br>Professor | Department of Physiology, Univ. of Kansas<br>Medical Center       |  |
| June  | 1980-1982 | Assistant<br>Professor | Department of Physiology, Univ. of Nevada<br>School of Medicine   |  |
| July  | 1982-1985 | Associate<br>Professor | Department of Physiology, Univ. Nevada<br>School of Medicine      |  |
| Sept. | 1985-1996 | Professor              | Department of Physiology, The Ohio State<br>Sch. Med.             |  |
| Univ. | Sept.     | 1994-1995              | Visiting<br>Professor   | Dept. Physiology, Univ. of Michigan Sch. |
|       | Sept.     | 1994-1995              | Research  | Dept. Int. Medicine, Univ. of Michigan   |

Fellow

July-Mar 1996-2000 Professor Department of Pharmacology, The Ohio State Univ. Sch. Med.

April 2000- Professor Department of Neuroscience, The Ohio State Univ. Sch. Med.

\*From 1971 to 1979, Part-time appointment - 2/3 time

### **Currently Funded Grants**

Principal Investigator; 1988-2000; NIDDK 1 R01-AM37240; Neural control of large intestinal mucosa.

Co-Investigator, 1999-2004; NIDDK 2R01-DK44179-06A2; Purinergic regulation of enteric neural reflexes.

Principal Investigator, 1997-1998; OSU; Pilot funds for collaborative projects

### **Pending**

Principal Investigator Principal Investigator, Sept 30, 1999-Sept 29, 2004; NIDDK; 1R01-DK57016-01A1 Coordination of motility and secretion. 46% effort. Year 1: \$250,000.

### **Previously Funded Grants**

Principal Investigator; 1985-1996; NIDDK; 1 R01-DK37237; Neural regulation of intestinal mucosa.

Principal Investigator; Senior NRSA for Dr. Helen Cooke; 1994-1995; NIDDK; 1F33DK09128; Gene expression of gastrin-related receptors.

Principal Investigator; 1993-1994; NIDDK; 1 R01-DK37240-09S1; Minority Postdoctoral Supplement for Dr. Rhoda Reddix. Accepted for 1 year.

Principal Investigator; 1982-1987; NIAMDD; Career Development Award 5 KO4-DK01642; Neural and hormonal control of intestinal transport

Principal Investigator; 1983-1986; NIAMDD; 1 R01-DK29699; Intestinal mucosal function in megacolon mice

Principal Investigator; 1987-1989; NIADKK; 1 R01-AM38104; Intestinal bypass surgery in hibernation

Principal Investigator; 1985-1987; NIADDK; 1 R01-AM33529 changed to AM37240; Neural control of human intestinal mucosa

Principal Investigator: 1991-1992; Crohn's and Colitis Foundation of America; for conference "Neuro-Immuno-Physiology of the Gastrointestinal Mucosa-Implications for Inflammatory Diseases".

Principal Investigator: 1991-1992; Am. Gastroenterology Assoc.; for conference "Neuro-Immuno-Physiology of the Gastrointestinal Mucosa-Implications for Inflammatory Diseases"

### **Honors and Awards**

|            |   |
|------------|---|
| 1962       | Alpha Lambda Delta  |
| 1965       | Phi Kappa Phi   |
| 1965       | Phi Beta Kappa  |
| 1981       | Who's Who in the West   |
| 1965-1967  | U.S. Public Health Traineeship, UCLA  |
| 1968-1970  | Teaching Assistantship, University of Sydney  |
| 1982-Pres. | Who's Who of American Women   |
| 1982-1987  | Research Career Development Award, NIH  |
| 1983       | Eloise Gerry Fellow   |
| 1983       | Nomination for outstanding researcher University of Nevada  |
| 1985       | Nomination for outstanding teacher, University of Nevada  |
| 1996-1997  | Hoechst Marion Roussel Distinguished Research Award, Gastrointestinal Section, Am. Physiol. Soc.              |
| 2000-2004  | U.S. National Organizing Committee for the International Union of Physiological Sciences Congress; 2000-2005. |

### **Service on National Grant Review Panels**

National Institutes of Health (NIH) Special Study Section: NIH Digestive Disease Core Center Grants, Univ. Iowa, July, 1984  
 NIH Animal Resources, external reviewer  
 NIH General Medicine GMA-1 AHR-M1, May, 1987  
 NIH Special Study Section, Program Project Site Visit, Univ. Arizona, August, 1991  
 NIH General Medicine GMA-2, Permanent Member July 1987-June 1991  
 NIH General Medicine, Subcommittee C, Permanent Member, February, 1992-June, 1995  
 American Heart Association-Mountain West Peer Review Group, 1983-1985  
 American Heart Association-Nevada Affiliate Research Committee, 1983-1985  
 CURE External Advisory Board, 1997-2000

### **Other Ad Hoc Review Committees**

National Science Foundation, external reviewer  
 Canadian Society for Ileitis and Colitis, external reviewer  
 Veterans Administration Grant, external reviewer  
 National Research Council, Howard Hughes Fellowships, 1988, 1990  
 Children's Hospital, Wexner Research Center, 1988, 1989, 1991, 1992

### **Editorial Boards**

American Journal of Physiology, 1984-1997; 1999-2000  
 Gastroenterology, 1988-1993  
 Gastroenterology, Guest Editor, 1991, 1992  
 News in Physiological Sciences, Associate Editor, 1994-00  
 J. Peptide Therapy: Index & Reviews, 1998, 1999

### **Ad Hoc Reviews**

E.J. Pharmacology, J. Autonomic Nervous System, J. Pharmacology and Experimental Therapeutics, Biochemical Pharmacology, American J. Physiology, Gastroenterology, Canadian J. Physiology and Pharmacology, Pediatric Research, Regulatory Peptides, Dig. Dis. Science, MCAT Content, Peptides, J. Nutrition, J. Clin. Invest., J. Auton. Nervous System, J. Neuroscience

### **Scientific Sessions Chaired**

Intestinal Absorption and Secretion, FASEB Meetings, April, 1982  
 Neuropharmacology, FASEB Meetings, April, 1984  
 Ganglionic control of the epithelium, FASEB Theme Symposium, April, 1985  
 Transport session, American Gastroenterology Assoc., May, 1985  
 Transport session, American Gastroenterology Assoc., May, 1986  
 Gastrointestinal Peptides and Growth, FASEB Meetings, April, 1987  
 Symposium, Neural Regulation of the Intestinal Epithelium, FASEB Meetings, May, 1988.  
 Symposium, Neural Control of the Intestinal Mucosa, FASEB Summer Conference, July, 1989  
 Neurotransmitter Session, Am. Gastroenterology Assoc. Meetings, May, 1991  
 Neurotransmitter Session, Am. Gastroenterology Assoc. Meetings, May 1992  
 American Motility Meetings, September, 1992  
 Fourth International Symposium on Peptide Therapies in Developmental Gastroenterology and Nutrition, Wexner Center, October, 1992  
 Epithelia as components of the common mucosal immune system. Experimental Biology Meetings, Anaheim, CA, April, 1994.  
 Intestinal secretion: Role of enteric neural reflexes. Dept. Physiology, Medical University of South Carolina, Charleston, SC, June, 1994  
 New discoveries in peptide therapy: enteric nervous system. World Congress of Gastroenterology, Los Angeles, October, 1994.  
 Signal transduction pathways, American Gastroenterology Assoc. Meetings, San Diego, CA  
 Extracellular signal transduction, International Symposium on Gastrointestinal Transport and Disease, Berlin, W. Germany  
 Enteric nerves and immunity, American Gastroenterology Assoc. Meetings, San Francisco, May, 1996  
 Role of pro-inflammatory cytokines in the pathogenesis of gastrointestinal and hepatic diseases, Gastroenterology Research Group symposium, Chicago, November, 1996  
 Expression of transporters and regulation of ion transport. In symposium: Epithelial transport and barrier function: Pathomechanisms in GI disorders. Berlin, Germany, March 26, 1999.

### **Membership in Societies**

American Federation for Clinical Research, 1977-1989  
 Sigma Xi, 1965; Vice President, Nevada Chapter 1984, President,  
 Nevada Chapter, 1985  
 American Physiological Society, 1978-present  
 American Women in Science, 1980-1998  
 American Gastroenterology Association, 1981-present  
 International Study Group for Tryptophan Research, 1983  
 Graduate Women in Science, Sigma Delta Epsilon, 1983-1995  
 Neuroscience Society, 1985-present  
 Gastrointestinal Research Group  
 American Motility Society, 1996-present

### **State and National Committees**

#### **American Physiological Society**

Committee-Women in Physiology, Chairperson, 1985-1987  
 Committee-Women in Physiology, Member, 1987-1990  
 Gastrointestinal Section Steering Committee, 1985-1987; Chairperson,  
 1986-1988  
 Gastrointestinal Section Nominating Committee, 1993  
 Committee on Committees, 1992-1994; Chairperson, 1993-1994  
 Member of Council, 1991-1994  
 Awards Committee, 1993  
 Task Force on Cannon/Bowditch Lectures, 1993  
 Interim Awards Committee, Chairperson, 1993-1995  
 Task Force on Awards, 1994-1995  
 Awards Committee, 1995-1996  
 Nominating Committee, Gastrointestinal Section, 1996  
 Long Range Planning Committee, 1997-1999

#### **American Gastroenterology Association**

Abstracts Selection Committee, 1984-1986  
 Steering Committee on Women, 1985-95  
 Research Committee, 1989-1995  
 Abstract Selection Subcommittee, Student Abstracts, 1992; Chair, 1993  
 Travel Award Selection Sub-committee, Chair, 1993  
 Symposia Grants, Chair, 1993-1994  
 Selection Committee for Distinguished Investigator, 1989  
 Abstract Selection Committee, Hormones and Receptors, 1991; Chair, 1992.  
 Meet the Professor Teaching Sessions, 1989-1991; 1996  
 Nominating Committee, 1988, 1992, 1997  
 Abstract Selection Committee, Motility/Nerve-Gut, 1994, 1995; Chair, 1996  
 Ph.D. Task Force Committee, Chair, 1995-1998  
 Motility and Nerve Gut Section; Vice Chair, 1999-2001  
 Member of Council 1999-2003

Abstract Selection Committee, Motility/Nerve-Gut, Chair, 2000

### **Gastrointestinal Research Group**

Member of Steering Committee 1995-1998

Nominating Committee 1996

Co-Director of fall symposium, The Role of Pro-Inflammatory Cytokines in the Pathogenesis of Gastrointestinal and Hepatic Diseases, Chicago, November, 1996

### **International Regulatory Peptide Organizing Committee**

Member, 1996-1998

### **U.S. National Organizing Committee for the International Union of Physiological Sciences Congress**

Member, 2000-2005.

### **Crohnt's and Colitis Foundation of America**

Subcommittee on Pathophysiology of Inflammatory Bowel Disease, 1989, 1992  
Central Ohio Chapter, member of Chapter Medical Advisory Committee,

1997

### **Federation of Association of Societies of Experimental Biology**

Women's Caucus, Chairperson, 1983-85

FASEB Committee on Women, 1988-1990

#### **Committees: University of Iowa**

1972-1976 Medical Physiology Organizational Committee  
1974-1976 Department of Physiology Resources Committee  
1974-1976 Medical Education Committee of the School of Medicine  
1974-1975 Medical Education Subcommittee on Evaluation of Curriculum,  
1974 Predoctoral Student Thesis Committee  
1975-76 Medical Bio-Science Subcommittee of the Radiation-Protection Committee

#### **Committees: University of Kansas**

1977-1980 Graduate Student Admissions Committee  
1978 Predoctoral Student Thesis Committee  
1979 Cell Physiology Search Committee

#### **Committees: University of Nevada**

1980-1983 Medical School Research Committee  
1980-1983 Medical Animal Care Committee, Chairman  
1980-1983 Medical School Admissions Committee

|                |   |
|----------------|---|
| 1981           | Committee for Organizing "Disordered Internal Environment"          |
| Teaching Block |   |
|                | Family Practice and Community Medicine                              |
| 1981           | Search Committee for Coordinator of Research                        |
| 1981-1984      | Medical School Subcommittee for Screening Out-of-State Applicants   |
| 1981-1983      | Research Advisory Board   |
| 1982           | Search Committee for Pharmacology Competition                       |
| 1983-1985      | Savitt Medical Library Advisory Committee                           |
| 1984           | Search Committee for Director of Cell and Molecular Biology Program |

### **Committees: The Ohio State University**

#### **Department of Pharmacology**

|           |  |
|-----------|--|
| 1996-1997 | Graduate Studies Committee                                       |
| 1996-1998 | Appointment, Promotion, Tenure Committee<br>Co-Chair, 1997, 1998 |
| 1997-1998 | Release Time Committee   |
| 1998      | Mentoring Committee  |

#### **Department of Physiology**

|           |  |
|-----------|--|
| 1986-1989 | Graduate Studies Committee                   |
| 1986-1987 | Seminar Committee                            |
| 1986      | Committee on Term Appointments               |
| 1987-1988 | Promotion and Tenure Committee               |
| 1986-1989 | Graduate Studies Committee                   |
| 1988      | Search Committee                             |
| 1989-1990 | Seminar Committee                            |
| 1989-1994 | Advisory Committee for Dr. Robert Stephens   |
| 1988-1992 | Ph.D. Advisory Committee for Najma Javed     |
| 1989-1990 | Search Committee                             |
| 1989-1991 | Appointment, Promotion and Tenure Committee  |
| 1990-1992 | Search Committee                             |
| 1990-1993 | Merit Committee                              |
| 1990-1995 | Advisory Committee for Dr. Dan Halm          |
| 1990-1994 | Advisory Committee for Dr. Cheryl Heesch     |
| 1991-1996 | Advisory Committee for Dr. Jen Lucas         |
| 1993      | Search Committee                             |
| 1993-1996 | Advisory Committee for Dr. Sissy Jhiang      |
| 1995-1996 | Appointments, Promotion and Tenure Committee |
| 1995-1996 | Seminar Committee                            |

#### **College of Medicine**

|      |  |
|------|--|
| 1986 | Search Committee for Obstetrics/Gynecology Chairperson |
|------|--|

|           |   |
|-----------|---|
| 1986      | Reviewer for OSU seed grants  |
| 1987      | Search Committee for Chair of Division of Nutrition, Dept. Ped, Children's Hospital |
| 1989      | Review Committee for Neuroscience Training  |
| 1990      | Judge for Bennett Graduate Research Day   |
| 1992-1993 | Search Committee, Gastroenterology, Dept. Medicine                                  |
| 1993-1995 | College of Medicine Space and Facilities Committee                                  |
| 1993      | Search Committee, Chair Dept. Med. Microbiology & Immunology                        |
| 1993-1997 | Executive Committee, Neural Development & Plasticity Training Grant                 |
| 1993-1995 | Research Committee  |
| 1993-1994 | Space Committee   |
| 1996-1999 | Appointment, Promotion and Tenure Committee   |
| 1999      | Chair, Clinical subcommittee  |
| 1997      | Chairperson's Review - Dr. Stephan Wilson, Director of SAMP                         |
| 1997      | Ad Hoc Graduate Committee on Integrated Curriculum                                  |
| 1997-1999 | Neuroscience Graduate Studies Committee   |

### Teaching Activities

|           |   |
|-----------|---|
| 1972-1976 | Medical Physiology - Renal lectures for medical students and graduate students                          |
| 1975      | Special topics - Renal seminar course for graduate students   |
| 1975      | Postgraduate course in urology - Renal lectures for interns and residents                               |
| 1976-1979 | Human Physiology - Renal and gastrointestinal lectures for physical therapists and undergraduate nurses |
| 1976-1979 | Advanced Human Physiology - Gastrointestinal lectures for graduate nurses                               |
| 1977-1980 | Gastroenterology - Advanced gastrointestinal lectures for graduate students                             |
| 1979-1980 | Medical Physiology - Gastrointestinal lectures for medical students                                     |
| 1979-1980 | Medical Physiology - Renal lectures to 1st and 2nd year medical students                                |
| 1980      | Visiting Professor, University of Nevada  |
| 1980-1985 | Renal and gastrointestinal lectures to 1st year medical students  |
| 1981-1982 | Biomedical Integration Course   |
| 1986      | 801 Seminar in Physiological Research Topics  |
| 1987      | 607,608,609 Medical Organ System Physiology; Gastrointestinal Section                                   |
| 1987,1990 | 911.15 Gastrointestinal Physiology  |
| 1985-     | 607,608,609, Medical System Organ Physiology, Gastrointestinal Section                                  |
| 1991      | 911.25 Membrane Transport   |
| 1989-92   | 999 Physiology Research Topics  |

- 1992 911.15 Gastrointestinal Physiology  
 1989,1991,1992,  
 1993 793 Laboratory Rotations  
 1993 Module leader, GI Section, Med I  
 1994 911.25 Membrane Transport  
 1994 Med I, Gastrointestinal and Nutrition, Module leader  
 1995 793 Laboratory Rotation  
 1995 Physiology 601, Renal Lectures  
 1996 Physiology 302, Renal Lectures  
 1996,1997 Pharmacology 850, Med 2, hrs  
 1996-97 Graduate Studies 693 (MCDB)  
 1997 Pharmacology Graduate Student Journal Club, Spring Quarter  
 1996-1997 MCDB Individual Studies 693; Graduate Student Rotation  
 Autumn Quarter, 2 students 20 hrs/week  
 1997 MCDB Individual Studies 693; Graduate Student Rotation Winter  
 Quarter, 1 student 10 hrs/week  
 1997 Graduate Student, E. Simmons, Vet. School, 20 hrs  
 1997 Pharmacology 999, Minsoo Kim, Dissertation Research  
 1997 Pharmacology 793, Minsoo Kim, Graduate Student Rotation  
 1998 Physiology 911, 2 hrs  
 1998 Pharmacology 850, 1 hr  
 1999 Pharmacology 850, 1 hr  
 1999 Pharmacology 999, Minsoo Kim, Research 4 quarters  
 2000 Pharmacology 999, Minsoo Kim, Research

#### **Postdoctoral Candidates Trained or Visiting Scientists**

- 1983-1984 Massoum Montakab, M.D.  
 1983-1987 Hannah Carey, Ph.D.  
 1985-1987 Atsukazu Kuwahara, Ph.D.  
 1987-present Y.-Z. Wang, Ph.D.  
 1985-1987 Cameron McCulloch, Ph.D.  
 1988 Xiao-Ying Tien, Ph.D.  
 1988-1990 T. Frieling, M.D.  
 1990 John Banwell, M.D.  
 1990-1993 Rhoda Reddix-Cheri, Ph.D.  
 1990-1992 D. Zafirov, M.D.  
 1991-1992 M. Zafirov, M.D.  
 1994-1995 Y. Xia, Ph.D.

#### **Predoctoral Graduate Students Trained**

- 1979 R. McCabe, Physiology rotation and thesis work, Univ. of Kansas Med.  
 Ctr.  
 1979 P. Tonkowicz Physiology rotation, Univ. of Kansas Medical Center  
 1981 P. Wade Biochemistry rotation, University of Nevada  
 1988-92 N. Javed Physiology rotation and thesis, Ohio State University

|         |            |   |
|---------|------------|---|
| 1989    | L. Wang    | Physiology rotation, Ohio State University              |
| 1991    | D. McTigue | Physiology rotation, Ohio State University              |
| 1992-96 | M. Sidhu   | Physiology rotation and thesis, Ohio State University   |
| 1993    | T. Chew    | Neuroscience rotation, Ohio State University            |
| 1994    | J. Cho     | Physiology rotation, Ohio State University              |
| 1995    | S. Coon    | Physiology rotation, Ohio State University              |
| 1996    | S. Hull    | MCDB rotation, Ohio State University                    |
| 1996    | H. Zhao    | MCDB rotation, Ohio State University                    |
| 1997    | D. Foppe   | MCDB rotation, Ohio State University                    |
| 1997    | E. Simmons | Vet. School techniques, Ohio State University           |
| 1997-   | M. Kim     | Pharmacology rotation, Ohio State University            |
| 1998-   | M. Kim     | Pharmacology predoctoral student, Ohio State University |

### **Predocctoral Student Thesis Committees/Exams**

|        |               |   |
|--------|---------------|---|
| 1974   | M. Leavitt    | Physiology, University of Iowa                          |
| 1974   | R. Kraig      | Physiology, University of Iowa                          |
| 1975   | M. Stout      | Physiology, University of Iowa                          |
| 1975   | B. Fleming    | Physiology, University of Iowa                          |
| 1975   | E. Zambraski  | Physiology, University of Iowa                          |
| 1975   | J. McLaren    | Physiology, University of Iowa                          |
| 1977   | L. Brann      | Physiology, Univ. of Kansas Medical Center              |
| 1978   | D. Vermillion | Physiology, Univ. of Kansas Medical Center              |
| 1978   | B. O'Neill    | Physiology, Univ. of Kansas Medical Center              |
| 1979   | R. McCabe     | Physiology, Univ. of Kansas Medical Center              |
| 1984   | P. Wade       | Physiology, Univ. of Nevada Medical School              |
| 1991   | Y. Xia        | Physiology, Ohio State Univ.                            |
| 1991   | K. Lapard     | Physiology, Ohio State Univ.                            |
| 1996   | M. Sidhu      | Physiology, Ohio State Univ.                            |
| 1997   | J. Cho        | Physiology, Ohio State Univ.                            |
| 1997-  | E. Simmons    | Clinical Sci., Ohio State Univ. Vet. Sch.               |
| 1998 - | S. Coons      | Physiology, Ohio State Univ.                            |
| 1998   | J. Miller     | Pharmacy, doctoral exam, Ohio State University          |
| 1999   | S. Huang      | Pharmacy, doctoral exam, Ohio State University          |
| 1999   | E. Simmons    | Veterinary School, doctoral exam, Ohio State University |
| 1998 - | M. Kim        | Pharmacology, Ohio State Univ.                          |

### **Minority Apprenticeships or High School Students Program**

Bharti Patel, Univ. Nevada  
 Jessica Wang, Univ. Nevada  
 Aref Bhuiya, Univ. Nevada  
 Chung Lee, Univ. Nevada  
 Tim Culver, 1988, Ohio State Univ.  
 Julie Polta, 1990, Ohio State Univ.

Stella Ogbeuh, 1991, Ohio State Univ.

### **Publications**

1. Cooke, H.J. Development of renal function in the late-embryonic and hatched chicken. Part 1. Development of glomerular filtration, renal clearances and electrolyte transport. Part 11. Development of amino acid transport. Ph.D. Thesis. Univ. of Sydney, N.S.W., Australia, 1971.
2. Cooke, H.J. and A. R. Cooke. Correlation between the weight of gastric mucosa and mammalian acid secretion. *Digestion* 1:209-1212, 1968.
3. Cooke, H.J. and J. A. Young. Development of glomerular filtration rate and electrolyte and osmolal clearance in the late embryonic and newly hatched chicken. *Pflugers Arch. Ges. Physiol.* 318:315-324, 1970.
4. Cooke, H. J. and J. A. Young. Amino acid transport in the developing chicken. *Aust. J. Exp. Biol. Med. Sci.* 51:199-207, 1973.
5. Cooke, H. J. and D. Dawson. Transport characteristics of isolated newborn rabbit ileum. *Am. J. Physiol.* 234:E257-E261, 1978.
6. Cooke, H. J., C. Arvanitakis, J. Folscroft, and J. Bornstein. Effect of aspirin on sugar, amino acid and sodium transport in rat jejunum. *Am. J. Physiol.* 234:E495-E499, 1979.
7. Cooke, H. J., L. Pfankuche and A. R. Cooke. Tryptophan transport by isolated newborn rabbit jejunum. *Am. J. Physiol.* 239:G306-G310, 1980.
8. Cooke, H.J., H. Henning, Jr., J.D. Wood and A. R. Cooke. Jejunal transport properties of the piebald mouse model for Hirschsprung's disease. *Am. J. Physiol.* 239:G123-127, 1980.
9. Cooke, H. J. and A. R. Cooke. Effect of tryptophan on the transport properties of newborn rabbit jejunum. *Am. J. Physiol.* 242:G308-G312, 1982.
10. McCabe, R., H. J. Cooke and L. P. Sullivan. Potassium transport in rabbit descending colon. *Am. J. Physiol.* 242:C81-C86, 1982.
11. Cooke, H. J., M. Montakhab, P. R. Wade and J. D. Wood. Transmural fluxes of 5-hydroxytryptamine in guinea pig ileum. *Am. J. Physiol.* 244:G421-G425, 1983.
12. Cooke, H.J., K. Shonnard and J. D. Wood. Effects of neuronal stimulation on mucosal transport in guinea pig ileum. *Am. J. Physiol.* 245:G290-G296, 1983.

13. Cooke, H. J., K. Shonnard, G. Highison and J. D. Wood. Effects of neurotransmitter release on mucosal transport in guinea pig ileum. *Am. J. Physiol.* 245:G745-G750, 1983.
14. Cooke, H. J., K. Pitman, G. Starr and J. D. Wood. Gastric emptying and small intestinal transit in the piebald mouse model for Hirschsprung's disease. *Gastroenterology*, 87:357-361, 1984.
15. Cooke, H. J. Influence of enteric cholinergic neurons on mucosal transport in guinea pig ileum. *Am. J. Physiol.* 246:G263-G267, 1984.
16. Cooke, H. J., P. R. Nemeth and J. D. Wood. Histamine action on guinea pig ileal mucosa. *Am. J. Physiol.* 246:G372-G377, 1984.
17. Cooke, H. J. and H. Carey. The effects of cisapride on serotonin-evoked mucosal responses in guinea-pig ileum. *European J. Pharmacology*, 98:147-148, 1984.
18. Cooke, H. J. and H. V. Carey. Pharmacological analysis of 5-hydroxytryptamine actions on guinea-pig ileal mucosa. *European J. Pharmacol.*, 111:329-337, 1985.
19. Carey, H. V., H. J. Cooke, P. Nemeth and J. D. Wood. Nerve-mediated action of forskolin on guinea pig ileal mucosa. *Experientia* 41:1156-1158, 1985.
20. Carey, H. V., H. J. Cooke and M. Zafirova. Mucosal responses evoked by stimulation of ganglion cell somas in the submucosal plexus of the guinea-pig ileum. *J. Physiol.* 364:69-79, 1985.
21. Cooke, H. J. Neurobiology of the intestinal mucosa. *Gastroenterology* 90:1057-1081, 1986. PROGRESS ARTICLE
22. Carey, H. V. and H. J. Cooke. Submucosal nerves and cholera toxin-induced secretion in guinea pig ileum in vitro. *Dig. Diseases and Sciences* 31:732-736, 1986.
23. Cooke, H. J., M. Zafirova, H. V. Carey, J. H. Walsh and J. Grider. VIP actions on the guinea pig intestinal mucosa during neural stimulation. *Gastroenterology* 92:361-370, 1987.
24. Kuwahara, A., S. Bowen, J. Wang, C. Condon and H. J. Cooke. Epithelial responses evoked by stimulation of submucosal neurons in guinea pig distal colon. *Am. J. Physiol.* 252:G667-G674, 1987.
25. Kuwahara, A. and H. J. Radowicz-Cooke. Epithelial transport in guinea pig proximal colon: Influence of enteric neurones. *J. Physiol.* 395:271-284, 1988.

26. Kuwahara, A., X. Y. Tien, L. Wallace and H. J. Cooke. Cholinergic receptors mediating secretion in guinea pig colon. *J. Pharmacol. Expt. Therapeutics* 242:600-606, 1987.
27. Carey, H. V., X. Y. Tien, L. J. Wallace and H. J. Cooke. Muscarinic receptor subtypes mediating the mucosal response to neural stimulation of guinea pig ileum. *Am. J. Physiol.* 253:G323-G329, 1987.
28. McCulloch, C. R., A. Kuwahara, C. D. Condon and H. J. Cooke.. Neuropeptide modification of chloride secretion in guinea pig distal colon. *Regulatory Peptides.* 19:35-43, 1987.
29. Cooke, H.J. Complexities of nervous control of the intestinal epithelium. *Gastroenterology* 94:1087-1096, 1988. EDITORIAL
30. McCulloch, C.R., and H. J. Cooke, Human alpha-CGRP influences colonic secretion by acting on myenteric neurons. *Regulatory Peptides* 24:87-96, 1989.
31. Kuwahara, A., H. J. Cooke, H. V. Carey, C. Condon, H. Mekhjian, E. C. Ellison and B. McGregor. Stimulation of enteric neurons: Effects on chloride transport in human left colon in vitro. *Dig. Dis. Sci* 34:206-213, 1989.
32. Carey, H.V. and H.J. Cooke. Neuromodulation of intestinal transport in the suckling mouse. *Am. J. Physiol.* 256:R481-R486, 1989.
33. Carey, H.V. and H.J. Cooke. TRH evokes chloride secretion via cholinergic pathways in the guinea-pig ileum. *E. J. Pharmacol.* 160:183-186, 1989.
34. Carey, H.V. and H.J. Cooke. Tonic activity of submucosal neurons influences basal ion transport. *Life Sciences* 44:1083-1088, 1989.
35. Cooke, H.J. Role of the "little brain" in the gut in water and electrolyte homeostasis. *FASEB Journal* 3:127-138, 1989. REVIEW
36. Carey, H.V., H.J. Cooke, W.T. Gerthoffer, L.W. Welling. Intestinal transport in megacolon mice. Alterations in sugar absorption. *Dig. Dis. Sci.* 34:185-192, 1989.
37. Kuwahara A., and H. J. Cooke. Tachykinin-induced anion secretion in guinea pig distal colon: Role of neural and inflammatory mediators. *J. Pharmacol. Exp. Ther.* 252:1-7, 1990.
38. Biagi, B., Y.-Z. Wang and H.J. Cooke. Effects of tetrodotoxin on chloride secretion in the rabbit distal colon: Tissue and cellular studies. *Am. J. Physiol.* 258:G223-G230, 1990.

39. Wang, Y.-Z., H.J. Cooke, H.-C. Su and R. Fertel. Histamine augments colonic secretion in the guinea pig distal colon. *Am. J. Physiol.* 258:G432-G439, 1990
40. Wang, Y.-Z. and H.J. Cooke. H<sub>2</sub> Receptors mediate cyclical chloride secretion in the guinea pig distal colon. *Am. J. Physiol.* 258:G887-G893, 1990.
41. Wang, Y.-Z., J. Palmer and H.J. Cooke. Neuro-immune regulation of colonic secretion in nematode-infected guinea pigs. *Am. J. Physiol.* 260:G307-G314, 1991.
42. Frieling, T., H.J. Cooke and J.D. Wood. Electrophysiological properties of neurons in submucous ganglia of the guinea-pig distal colon. *Am. J. Physiol.* 260:G835-G841, 1991.
43. Frieling, T., H.J. Cooke and J.D. Wood. Synaptic transmission in submucous ganglia of the guinea-pig distal colon. *Am. J. Physiol.* 260:G842-G849, 1991.
44. Carey, H.V. and H.J. Cooke. Effect of hibernation and jejunal bypass on mucosal structure and function. *Am. J. Physiol.* 261:G37-G44, 1991.
45. Wang, Y.-Z., T. Frieling, J.D. Wood and H.J. Cooke. Neural 5-hydroxytryptamine receptors regulate chloride secretion in the guinea pig distal colon. *Am. J. Physiol.* 261:G833-G840, 1991.
46. Rikihisa, Y., H.J., G.J. Johnson, Y.-Z. Wang, S. Reed, and R. Fertel and H.J. Cooke. Loss of absorptive capacity for sodium and chloride as a cause of diarrhea in Potomac Horse Fever. *Res.Veterinary Sci.* 52:353-362, 1992.
47. Javed, N. and H.J. Cooke. Acetylcholine release from colonic submucous neurons associated with Cl<sup>-</sup> secretion in the guinea pig colon. *Am. J. Physiol.* 262:G131-G136, 1992.
48. Zafirov, D.H., H.J. Cooke and J.D. Wood. Thyrotropin-releasing hormone excites submucous neurons in guinea-pig colon. *Eur. J. Pharmacol.* 204:109-112, 1991.
49. Frieling, T., H.J. Cooke and J.D. Wood. Serotonin receptors on submucous neurons in the guinea-pig colon. *Am. J. Physiol.* 261:G1017-G1023, 1991.
50. Reddix, R.A. and H.J. Cooke. Neurokinin 1 receptors mediate substance P-induced changes in ion transport in guinea pig ileum. *Reg. Peptides* 39:215-225, 1992.
51. Frieling, T., J.D. Wood and H.J. Cooke. Submucosal reflexes: Distension-evoked ion transport in the guinea pig distal colon. *Am. J. Physiol.* 263:G91-G96, 1992.
52. Javed, N.H., Y.-Z. Wang and H.J. Cooke. Neuro-immune interactions: Role for cholinergic neurons in intestinal anaphylaxis. *Am. J. Physiol.* 263:G847-G852, 1992.

53. Cooke, H.J. Neuromodulation of ion secretion. *Current Opinion in Gastroenterology*. 8:967-974, 1992. REVIEW
54. Carey, H.V. and H.J. Cooke. Intestinal secretion after jejunal bypass in the ground squirrel. *Am. J. Physiol.* 263:R1209-R1214, 1992.
55. Zafirov, D.H., H.J. Cooke and J.D. Wood. Elevation of cAMP facilitates noradrenergic transmission in submucous neurons of guinea pig ileum. *Am. J. Physiol.* 264:G442-G446, 1993.
56. Frieling, T., H.J. Cooke and J.D. Wood. Histamine receptors on submucous neurons in the guinea-pig colon. *Am. J. Physiol.* 264:G74-G80, 1993.
57. Cooke, H.J., Y.-Z. Wang and R. Rogers. Coordination of Cl<sup>-</sup> secretion and contraction by a histamine H<sub>2</sub> receptor agonist in guinea pig distal colon. *Am. J. Physiol.* 265:G973-G978, 1993.
58. Javed, N.H., K.E. Barrett, Y.-Z. Wang, J. Bidinger and H.J. Cooke. Enhanced tissue responsiveness in colonic ion transport of cow's milk-sensitized guinea pigs. *Agents and Actions* 41:1-7, 1994.
59. Cooke, H.J. Immune signalling and regulation of intestinal transport. *Am. J. Physiol.* 266:G167-G178, 1994. REVIEW
60. R. Reddix, A. Kuwahara, L. Wallace, and H.J. Cooke. VIP: A transmitter in submucous neurons mediating colonic secretion in the guinea pig colon. *J. Pharmacol. Exp. Therap.* 269:1124-1129, 1994.
61. Cooke, H.J. and Y.-Z. Wang. H<sub>3</sub> receptors: Modulation of histamine-stimulated neural pathways influencing colonic secretion in the guinea pig. *J. Auton. Nervous System* 50:201-207, 1994.
62. Frieling, T., H.J. Cooke and J.D. Wood. Neuroimmune communication in the submucous plexus of guinea-pig colon after sensitization to milk antigen. *Am. J. Physiol.* 267:G1087-G1093, 1994..
63. Frieling, T., J.M. Palmer, H.J. Cooke and J.D. Wood. Neuroimmune communication in the submucous plexus of guinea-pig colon after infection with *Trichinella spiralis*. *Gastroenterology* 107:1602-1609, 1994..
64. Cooke, H.J. The action of opioid agonists on intestinal ion transport. *Reg. Peptide Newsletter* 5:68-71, 1994.

65. Cooke, H.J., Y.-Z. Wang, R. Reddix and N.H. Javed. Cholinergic and VIP-ergic pathways mediate histamine H<sub>2</sub> receptor-induced cyclical secretion in the guinea pig colon. *Am. J. Physiol.* 268:G465-G470, 1995
66. Sidhu, M. and H.J. Cooke. Role for 5-HT and ACh in submucosal reflexes mediating colonic secretion. *Am. J. Physiol.* 269:G346-G351, 1995.
67. Cooke, H.J., M. Sidhu, P. Fox, Y.-Z. Wang and E. Zimmerman. Substance P as a mediator of colonic secretory reflexes. *Am. J. Physiol.* 273:G238-G245, 1997.
68. Cooke, H.J., M. Sidhu and Y.-Z. Wang. 5-HT activates neural reflexes regulating secretion in guinea pig colon. *Neurogastroenterol. Mot.* 9:181-186, 1997.
69. Cooke, H.J., M. Sidhu and Y.-Z. Wang. Activation of 5-HT<sub>1P</sub> receptors on submucosal afferents subsequently triggers VIP neurons and chloride secretion in guinea-pig colon. *Autonomic Nerv. Sys.* 66:105-110, 1997.
- 70 Gantz I., A. Muraoka, Y.K. Yang, L.C. Samuelson, E.M. Zimmerman, H. Cooke, T. Yamada. Cloning and chromosomal localization of a gene (GPR18) encoding a novel seven transmembrane receptor highly expressed in spleen and testis. *Genomics.* 42:462-6, 1997.
71. Cooke, H.J. Enteric Tears: Chloride secretion and its neural regulation. *NIPS* 13:275-280, 1998.
- 72 Reddix, R.A., D. Mullet, R. Fertel and H. J. Cooke. Endogenous nitric oxide inhibits endothelin-1 induced chloride secretion in guinea pig colon. *Nitric Oxide: Biology and Chemistry.* 2:28-36,1998.
73. Cooke, H.J., P. Fox, L. Alferes, C.C. Fox and S.A. Wolfe, Jr. Presence of NK<sub>1</sub> receptors on a mucosal-like mast cell line, RBL-2H3 cells. *Canadian J. Physiol. Pharmacol* 76:188-193,1998
74. Cooke, H.J., Y.-Z. Wang, C.Y. Liu, H. Zhang and F.L. Christofi. Activation of neuronal adenosine A<sub>1</sub> receptors suppresses secretory reflexes in the guinea pig colon. *Am. J. Physiol.* 276:G451-G462, 1999.
75. Xue, J., F. Christofi, C.Y. Liu, E.J. Goetzl, Y.-Z. Wang and H.J. Cooke. Expression of VIP receptors in diverse intestinal cells. (to be submitted 6/00).
- 76.Christofi, F., J. Guzman, J. Xue, C.Y. Liu, H. Zhang, M. Kim and H.J. Cooke. Differential gene expression of adenosine A<sub>1</sub>, A<sub>2a</sub>, A<sub>2b</sub> and A<sub>3</sub> receptors in the human small and large intestine. (to be submitted 6/00)

77. Kim, M., H. Raybould, H.V. Carey, N.H. Javed and H.J. Cooke. D-Glucose uptake by SGLT-1, the sodium/D-glucose cotransporter, is associated with 5-hydroxytryptamine (5-HT) release from human BON cells. (in preparation).

78. Wang, Y.-Z., L. Alferes, T.M. O'Dorisio, M.S. O'Dorisio, E.A. Woltering, D.H. Coy, W.A. Murphy, P. Gosh and H.J. Cooke. Role for somatostatin receptors in discriminating between mechanosensitive release of 5-HT and PGE<sub>2</sub> in the initiation of secretory reflexes in the guinea pig colon. (in preparation)

H.J. Cooke, Y.-Z. Wang, D. Wray, M.S. O'Dorisio, E.A. Woltering, D.H. Coy, W.A. Murphy, P. Ghosh, M. O'Dorisio. A multityrosinated sst1/2 preferring somatostatin agonist. (manuscript 95% complete, prepared for Neurogastroenterology & Motility)

### **Book Chapters and Reviews**

1. Cooke, H. J. Tryptophan and intestinal secretion. In: Progress in Tryptophan and Serotonin Research. eds. H. G. Schollossberger, W. Kochen, B. Linzen, H. Steinhart. W. de Gruyter & Co., N.Y., 1983, pp. 563-566.

2. Wood, J. D. and H. J. Cooke. Murine models for congenital megacolon: Hirschsprung's disease. In: Animal Models for Intestinal Disease, ed. C. J. Pfeiffer, CRC Press, Boca Raton, Fl., 1985, pp. 181-195.

3. Cooke, H. J. Neural and humoral control of small intestinal electrolyte transport. In: Physiology of the Gastrointestinal Tract. Vol. 2. Ed. L.R. Johnson. Raven Press, N.Y., 1987, 1307-1350.

4. McCulloch, C. R. and H. J. Cooke. Modification of colonic secretion by neuropeptides in guinea pig distal colon. In Gastrointestinal and Hepatic Secretion: Mechanisms and Control. Ed. J. Davison and E.A. Shaffer. University of Calgary Press, Calgary, pp. 252-253, 1988.

5. Cooke, H.J. Neuroeffector relations in the intestinal mucosa in vitro. In : Nerves and the Gastrointestinal Tract, 50th Falk Symposium. Edited by M.V. Singer and H. Goebell. MTP Press, Lancaster, England, pp. 265-273, 1989.

6. Cooke, H.J. and H.V. Carey. Neural regulation of intestinal ion transport. In: Textbook of Secretory Diarrhea. Edited by E. Lebenthal and M. Duffey. Raven Press, N.Y., 1990, pp 1-14.

7. Cooke, H.J., T. Frieling, Y.Z. Wang and J.D. Wood. Neuroimmuno-modulation of intestinal chloride secretion. In: Exocrine Secretion II. Eds. P.Y.D. Wong and J.A. Young. United League Graphic and Printing Co., Ltd., Hong Kong, pp 39-42, 1990.

8. Cooke, H.J. Regulation of colonic transport by the autonomic nervous system. In: *The Large Intestine: Physiology, Pathophysiology, and Disease*. Ed. S.F. Phillips, J.H. Pemberton and R.G. Shorter. Raven Press, Ltd., N.Y., 1991, pp 169-179.
9. Cooke, H.J. Hormones and neurotransmitters regulating intestinal ion transport. In: *Diarrheal Diseases*. Ed. M. Field. Elsevier, NY, 1991, pp 23-48.
10. Cooke, H.J. Calcitonin gene-related peptides: Influence on intestinal ion transport. In: *Calcitonin Gene-Related Peptide: The First Decade of a Novel Pleiotropic Neuropeptide*. Eds. Y. Tache, P. Holzer, M.G. Rosenfeld. N.Y. Academy of Sci., N.Y., 1992, pp. 313-318.
11. Cooke, H.J. Neuro-modulation of ion secretion by inflammatory mediators. In: *Neuro-Immuno-Physiology of the Gastrointestinal Tract-Implications for Inflammatory Diseases*. Eds. R. Stead, M. Perdue, H.J. Cooke, D.Powell and K. Barrett. N.Y. Acad. Sci., NY, 1992, pp 346-352.
12. Cooke, H.J. Submucosal neuronal circuitry controlling ion transport and its relation to motility. In: *Advances in Innervation of the Gastrointestinal Tract*, Eds. G Holle and J.D. Wood. Elsevier, Amsterdam, 1992, pp 433-441.
13. Cooke, H.J. Intestinal salt and water transport. In: *Gut Peptides: Biochemistry and Physiology*. Ed. J. Walsh and G.J. Dockray. Raven Press, NY, 1994, 749-763.
14. Cooke, H.J., Y.-Z. Wang and R. Rogers. Neuro-immune interactions: Histamine signals to the intestine. In: *Innervation of the Gut: Pathophysiological Implications.*, Tache, Y., D. Windgate and T. Burks. CRC Press, 1994, pp 307-313.
15. Cooke, H.J. and R.A. Reddix. Neural regulation of intestinal electrolyte transport. In: *Physiology of the Gastrointestinal Tract*. Vol. 3. Eds. L.R. Johnson, D. Alpers, J. Christensen and E. Jacobson. Raven Press, N.Y., 1994, pp 2083-2132.
16. Cooke, H.J. Extracellular signaling to the colonic epithelium: role for enteric nerves. *Studies in Honour of John Atherton Young*. Eds. A. Dinudom and P. Komwatana. University of Sydney Printing Service, Sydney, 1996, pp 61-65.
17. Cooke, H.J. Peptides, neural circuits and intestinal secretion. Eds. Y-F Chen and T. Yamada. In: *Textbook of Gastrointestinal Peptide Hormones: Basic and Clinical Aspects*. Peking Union Medical College and Beijing Medical University Joint Press, Beijing, China, 1997, pp 477-482.
18. Cooke H.J. Nerves and secretory mechanisms. *Protoplasma* 206:224-227, 1999.

## **Summaries**

3. Cooke, H.J. and T.M. O'Dorisio. *J. Peptide Therapy: Index & Reviews*. 10(1):7,8,13,15,17, 1998.
  - a. Substantial production of dopamine in the human gastrointestinal tract.
  - b. Signaling pathways for guanylin and uroguanylin in the digestive, renal, central nervous, reproductive and lymphoid systems.
  - c. Sorbin in the porcine gastrointestinal tract and pancreas: An immunohistochemical analysis.
  - d. Immunohistochemical localization of the NPY/PYY Y1 receptor in the developing pancreas.
  - e. Circulating and tissue forms of the intestinal growth factor, glucagon-like peptide-2.
  - f. Distribution and localization of a novel cholecystinin-releasing factor in the rat gastrointestinal tract.

### **Abstracts**

1. Snedecor, J. D. and H. J. Radowicz. Alterations in the liver of the hypothyroid chick. *Am. Zool.* 5:245, 1965.
2. Cooke, H. J. and J. A. Young. Clearance and microperfusion study of EDTA51 Cr excretion by rat kidney. *Aust. J. Exp. Biol. Med. Sci.* 46:P13, 1968.
3. Cooke, H. J. and J. A. Young. Development of renal function in the late embryonic and post-embryonic chicken. *Aust. J. Exp. Biol. Med. Sci.* 47:P6-7, 1969.
4. Cooke, H. J. and J. A. Young. Transport characteristics of rabbit ileum. *Fed. Proc.* 35:618, 1976.
5. Cooke, H. J., C. Arvanitakis, J. Folscroft and J. Bornstein. Effect of aspirin on jejunal alanine and glucose transport in the rat. *Fed. Proc.* 37:722, 1978.
6. Cooke, H. J., L. Pfankuche and A. R. Cooke. Tryptophan and phenylalanine transport by newborn rabbit jejunum. *Fed. Proc.* 38:1238, 1979.
7. Cooke, H. J. and J. D. Wood. Amino acid absorption in the piebald-lethal mouse jejunum. *Gastroenterology* 76:1115, 1979.
8. Cooke, H. J. and J. D. Wood. Transport characteristics of jejunal mucosa in the piebald mouse model for Hirschsprung's disease. *The Physiologist*, 22:22, 1979.
9. Cooke, H. J. Effects of tryptophan on ion fluxes in newborn rabbit jejunum. *Fed. Proc.* 40:362, 1981.
10. McCabe, R., H. J. Cooke, and L. P. Sullivan. Potassium transport by rabbit descending colon. *Fed. Proc.* 40:357, 1981.

11. Pitman, K., G. Starr, H. J. Cooke and J. D. Wood. Gastrointestinal transit in the piebald mouse model for Hirschsprung's disease. *Clin. Res.* 30:37A, 1982.
12. Wade, P. R., H. J. Cooke and J. D. Wood. Transmural movement of serotonin in guinea pig ileum. *Fed. Proc.* 41:1744, 1982.
13. Cooke, H. J. Intestinal secretion stimulated by tryptophan in the newborn rabbit. *Fed. Proc.* 41:980, 1982.
14. Pitman, K., G. Starr, H. J. Cooke and J. D. Wood. Gastric emptying and intestinal transit in the piebald mouse model for Hirschsprung's disease. *Gastroenterology* 82:1258, 1982.
15. Shonnard, K., H. J. Cooke, G. Highison and J. D. Wood. The effects of electrical field stimulation and scorpion venom on a chloride-secreting epithelium. *Clin. Res.* 31:35A, 1983.
16. Cooke, J. H., K. Shonnard and J. D. Wood. Neural control of epithelial transport in guinea pig ileum. *Fed. Proc.* 42:1281, 1983.
17. Cooke, H. J. Intestinal secretion evoked by neuronal stimulation of guinea pig ileum. *gastroenterology* 84:1130, 1983.
18. Cooke, H. J., P. Nemeth and J. D. Wood. Nerve-mediated histamine action on guinea pig ileal mucosa. *Proc. 29th Congress of International Union Physiol. Sci.* 15:452, 1983.
19. Carey, H. and H. J. Cooke. Jejunal sugar transport and effects of enteric neuronal activity in the piebald mouse model for Hirschsprung's disease. *Fed. Proc.* 43:1080, 1984.
20. Gerthoffer, W. T., R. E. Franzl and H. J. Cooke. Intestinal mucosal ATPase activities of the piebald mouse model of Hirschsprung's disease. *Fed. Proc.* 43:1080, 1984.
21. Cooke, H. J. and H. Carey. The role of enteric nerves in cholera toxin-induced intestinal secretion in the guinea pig ileum. *Gastroenterology* 86:1053, 1984.
22. Carey, H. and H. J. Cooke. Influence of enteric nerves on jejunal mucosal function of the piebald-lethal mouse. *Gastroenterology* 86:1040, 1984.
23. Cooke, H. J. and H. Carey. Effects of cisapride, a serotonin antagonist, on neural stimulation of guinea pig ileal mucosa. *Fed. Proc.* 43:1093, 1984.

24. Cooke, H. J., H. V. Carey and John Walsh. Neural stimulation of intestinal mucosa and the effects of VIP. *Gastroenterology* 86:1053, 1984.
25. Cooke, H. J., and H. V. Carey. The intestinal mucosa as a neuro-effector system: cholinergic and serotonergic transmission. *Neurosci. Abs.* 10:1097, 1984.
26. Carey, H. V., H. J. Cooke and M. Zafirova. Ileal secretion evoked by stimulation of ganglion cell somas in the guinea pig submucosal plexus. *Fed. Proc.* 44:1743, 1985.
27. Carey, H. V., W. T. Gerthoffer and H. J. Cooke. Intracellular concentrations and Na-K-ATPase activities of intestinal mucosa of the piebald mouse model for Hirschsprung's disease. *Gastroenterology* 88:1343, 1985.
28. Cooke, H. J., M. Zafirova, H. V. Carey and J. H. Walsh. Effects of VIP antiserum on neural stimulation of guinea pig intestinal mucosa. *Gastroenterology* 88:1355, 1985.
29. Carey, H. V. and H. J. Cooke. M2 receptors mediate the cholinergically-evoked Cl<sup>-</sup> secretory response in guinea pig ileal mucosa. *Fed. Proc.* 45:181, 1986.
30. Carey, H. V. and H. J. Cooke. Enteric neural reflex pathways influence basal ion transport in guinea pig ileum. *Proceedings of the XXX Congress of International Union of Physiological Sciences*, 16:105, 1986.
31. Kuwahara, A., S. Bowen and H. J. Cooke. Activation of enteric colonic nerves: Epithelial responses. *Proceeding of the XXX Congress of International Union of Physiological Sciences*. 16: 105, 1986.
32. Bowen, S. J. Wang, C. Condon and H.J. Cooke. Distal colonic secretion evoked by stimulation of enteric neurons. *Gastroenterology* 90:1353, 1986.
33. Kuwahara, A., S. Bowen and H. J. Cooke. Neural influences on the proximal colonic mucosa: Comparison with distal colon. *Gastroenterology* 90:1506, 1986.
34. Carey, H. V. and H. J. Cooke. Submucosal reflex pathways: Regulation of ion transport in guinea pig ileum. *Gastroenterology* 90:1365, 1986.
35. McCulloch, C. R. and H. J. Cooke. Excitatory effect of calcitonin-gene related peptide in colonic secretion in guinea pig distal colon. *Neurosci. Abs.* 12:220, 1986.
36. Kuwahara, A. and H. J. Cooke. Mediation of neurally-evoked secretion by muscarinic receptors in guinea pig distal colon. *Neurosci. Abs.* 12:816, 1986.
37. Kuwahara, A. and H. J. Cooke, H. V. Carey, C. Condon, H. Mekhjian, E. C. Ellison and B. McGregor. Enteric neural regulation of epithelial ion transport in human left colon. *Clin.Res.* 34:910A, 1986.

38. Carey, H. V. and H. J. Cooke. Intestinal transport in hibernating and active ground squirrels. *Am. Zoologist* 26:52A, 1986.
39. Kuwahara, A., H. J. Cooke, N. Yanaihara and J. Rivier. Comparison of VIP, PHI and helodermin on ion transport in guinea pig distal colon. *Fed. Proc.* 46:1077, 1987.
40. Carey, H. V., H. J. Cooke and J. Rivier. Effects of a VIP-antagonist on noncholinergically mediated secretion in guinea pig ileal mucosa. *Fed. Proc.* 46:1077, 1987.
41. McCulloch, C. R., C. Condon and H. J. Cooke. Influence of neuropeptides on ion transport in guinea pig distal colon. *Fed. Proc.* 46:1078, 1987.
42. Kuwahara, A., H. J. Cooke, E. C. Ellison and H. Mekhjian. Ion transport in the human right colon and influence of enteric nerves. *Gastroenterology* 92:1485, 1987.
43. Kuwahara, A. and H. J. Cooke. Effect of substance P on ion transport of guinea pig distal colon. *Gastroenterology* 92:1485, 1987.
44. Carey, H. V. and H. J. Cooke. Maintenance of intestinal function in hibernating ground squirrels. *Gastroenterology* 92:1338, 1987.
45. McCulloch, C. R. and H. J. Cooke. Effects of adenosine analogues on neurally-evoked chloride secretion in the guinea pig ileum. *Gastroenterology*. 92:1525, 1987.
46. Cooke, H.J. and A. Kuwahara. Vasoactive intestinal peptide: A neural mediator of secretion in the guinea pig distal colon. *Zeitschrift fur Gastroenterologie* 25:622, 1987.
47. Carey, H.V. and H.J. Cooke. Neural control of intestinal ion transport in the ground squirrel, a seasonal hibernator. *Zeitschrift fur Gastroenterologie* 25:621, 1987.
48. Carey, H.V. and H.J. Cooke. Transport function after intestinal bypass surgery in hibernating and active ground squirrels. *Gastroenterology* 94:A59, 1988.
49. Wang, Y.-Z. and H.J. Cooke. Interaction of a mast cell inflammatory mediator with the enteric nervous system and the epithelium in guinea pig distal colon. *Gastroenterology* 94:A487, 1988.
50. Teitelbaum, D.H, D.J. Dunaway, W.E. Wise, H.J. Cooke, R.E. Sonino, G. Stellin, R.P. Harmel, Jr. Loss of intestinal integrity as a marker of small bowel transplant rejection. *Gastroenterology* 94:A457, 1988.
51. Javed, N. and H.J. Cooke. Release of acetylcholine from guinea pig distal colonic submucosa/mucosa. *Fed. Proc.* 3:A38, 1989

52. Carey, H.V. and H.J. Cooke. Effects of bypass surgery on gut structure and function in hibernating ground squirrels. Fed. Proc. 3:A1151, 1989.
53. Frieling, T., H.J. Cooke and J.D. Wood. Cellular neurophysiology of submucosal ganglion cells in the colon of the guinea pig. Fed. Proc. 3:A388, 1989.
54. Wang, Y.-Z., J.M. Palmer and H.J. Cooke. Neural, epithelial and immune interactions in distal colon of guinea pigs infected with *Trichinella spiralis*. Fed. Proc. 3:A388, 1989.
55. Biagi, B. and H.J. Cooke. Tetrodotoxin effects in rabbit distal colon. Fed. Proc. 3:A388, 1989.
56. Tien, X.-Y., H.J. Cooke and J.D. Wood. Effects of muscarinic receptor antagonist telenzepine on Cl<sup>-</sup> secretion in guinea pig distal colon. Fed. Proc. 3:A389, 1989.
57. Rikihisa, Y., G.C. Johnson, H.J. Cooke and S.M. Reed. Pathophysiologic changes of large colon of horses infected with *Ehrlichia risticii*. Proc. 3rd Equine Colic Res. Symp. p58., 1988.
58. Frieling, T., H.J. Cooke and J.D. Wood. Intracellular study of actions of the inflammatory mediator histamine on electrical and synaptic behavior of submucosal neurons in guinea pig distal colon. Gastroenterology 96:A160, 1989.
59. Wang, Y.-Z. and H.J. Cooke. The inflammatory mediator histamine activates submucosal neurons to drive cyclical chloride secretion in the guinea pig distal colon. Gastroenterology 96:A537, 1989.
60. Frieling, T., B.A. Kroese, H.J. Cooke and J.D. Wood. Actions of 5-hydroxytryptamine on electrical and synaptic behavior of submucosal neurons in guinea pig colon. FASEB J. 4:A980, 1990.
61. Wang, Y.-Z. and H.J. Cooke. Presynaptic H<sub>3</sub> receptors regulate cyclical Cl<sup>-</sup> secretion in guinea pig distal colon. Gastroenterology 98:A400, 1990.
62. Wang, Y.-Z. and H.J. Cooke. Histamine acts at H<sub>2</sub> receptors on submucosal cholinergic neurons to induce cyclical Cl<sup>-</sup> secretion in the guinea pig distal colon. Gastroenterology 98:A400, 1990.
63. Frieling, T., H.J. Cooke and J.D. Wood. In vitro distension activates submucosal reflex pathways to drive chloride secretion in guinea pig distal colon. Gastroenterology 98:A352, 1990.

64. Frieling, T., H.J. Cooke, J.D. Wood and J.M. Palmer. Electrical and synaptic behavior of colonic submucosal neurons in *Trichinella spiralis* and B-lactoglobulin-sensitized guinea pigs. *Gastroenterology* 98:A352, 1990.
65. Cooke, H.J., J. Banwell, T. Frieling and M. Arnold. Vasoactive intestinal polypeptide (VIP) augments colonic Cl<sup>-</sup> secretion evoked by distension-activated neural reflex pathways. *Gastroenterology* 100:A682, 1991.
66. Wang, Y.-Z. and H.J. Cooke. Comparison of effects of  $\beta$ -lactoglobulin and N-formyl-methionyl-leucyl-phenalanine (FMLP) on ion transport in the colon of milk sensitized guinea pigs. *Gastroenterology* 100:A708, 1991.
67. Javed, N. and H.J. Cooke. Effect of leukotriene D4 on colonic ion transport in  $\beta$ -lactoglobulin-sensitized guinea pigs. *Gastroenterology* 100:A708, 1991.
68. Javed, N., Y.-Z. Wang and H.J. Cooke. Mast cell inflammatory mediators stimulate acetylcholine release from submucosal neurons during intestinal anaphylaxis. *Gastroenterology* 100:A453, 1991.
69. Wang, Y.-Z. and H.J. Cooke. Effects of 5-hydroxytryptamine on ion transport in the guinea pig distal colon. *FASEB J.* 54:A1062, 1991.
70. Frieling, T., H.J. Cooke and J.D. Wood. Actions of 5-hydroxytryptamine (5-HT) on guinea-pig colonic submucosal neurons: 5-HT<sub>1P</sub>, 5-HT<sub>3</sub> and 5-HT<sub>4</sub> receptors. *Gastroenterology* 100:A443, 1991.
71. Reddix-Cheri, R., J.R. Grider and H.J. Cooke. Release of vasoactive intestinal polypeptide (VIP) from submucosal neurons in guinea pig distal colon. *Gastroenterology* 100:A485, 1991.
72. Carey, H.V. and H.J. Cooke. Intestinal secretion after bypass surgery. *FASEB J.* 1991.
73. Rikihisa, Y., H.J. Cooke and R. Fertel. Loss of absorptive capacity for sodium and chloride as a cause of diarrhea in Potomac Horse Fever. *FASEB J.* 5:A1138, 1991.
75. Frieling, T., H.J. Cooke and J.D. Wood. Histamine evokes cyclical spike discharge in submucous neurons in guinea pig distal colon. *J. Gastrointestinal Motil.* 3:A181, 1991.
76. Cooke, H.J. Influence of calcitonin gene-related peptide (CGRP) on intestinal transport. *Regl. Peptides* 34:87, 1991.
77. Wang, Y.-Z., R. Rogers and H.J. Cooke. Histamine evokes coordinated cyclical patterns of muscle contraction associated with Cl<sup>-</sup> secretion in the guinea pig colon. *Gastroenterology* 102:A532, 1992.

78. Javed, N.H. and H.J. Cooke. The mast cell mediator, histamine, stimulates acetylcholine release associated with Cl<sup>-</sup> secretion in the guinea pig distal colon. *Gastroenterology* 102:A928, 1992.
79. Frieling, T., M. Schemann, H.J. Cooke and J.D. Wood. Pre- and postsynaptic  $\alpha_2$  adrenoreceptors on submucous neurons in the guinea pig colon. *Gastroenterology* 102:A732, 1992.
80. Reddix, R.A. and H.J. Cooke. Neurokinin NK<sub>1</sub> receptors mediate substance P-induced secretion in guinea pig ileum. *Gastroenterology* 102:A752, 1992.
81. Cooke, H.J., Y.-Z. Wang and R. Rogers. Mechanisms of neural-immune system interactions. *Dig. Dis. Sci.* 37:966, 1992.
82. Wang, Y.-Z., R. Rogers and H.J. Cooke. Sequential activation of secretion and large amplitude contractions by the H<sub>2</sub> receptor agonist, dimaprit. *Gastroenterology* 104:A597, 1993.
83. Reddix, R.A., Y.-Z. Wang, R. Fertel and H.J. Cooke. Activation of neural histamine H<sub>2</sub> receptors evokes VIP release associated with recurrent cycles of Cl<sup>-</sup> secretion in guinea pig distal colon. *Gastroenterology* 104:A569, 1993.
84. Reddix, R.A., D. Mullet, R. Fertel and H.J. Cooke. Nitric oxide modulation of endothelin-evoked ion secretion in guinea pig distal colon. *Gastroenterology* 104:A849, 1993.
85. Reddix, R.A., D. Mullet, R. Fertel and H.J. Cooke. Paracrine modulation of the colonic epithelium: role for nitric oxide and prostaglandins. *Gastroenterology* 106:A264, 1994.
86. Sidhu, M, Y.-Z. Wang and H.J. Cooke. Submucous reflexes: Sensory transduction mechanisms and neural pathways influencing mucosal stroking-induced secretion in the guinea pig colon. *Gastroenterology* 106:A1050, 1994.
87. Reddix, R.A. and H.J. Cooke. Endothelin-1 immunohistochemical distribution and receptors mediating secretion in guinea pig distal colon. *Gastroenterology* 106:A1046.
88. Cooke, H.J., S.M. Jhiang and P. Fox. Cloning of histamine H<sub>2</sub> receptor cDNAs in the gastrointestinal tract of the guinea pig by polymerase chain reaction (PCR). *Gastroenterology* 106:A804, 1994.
89. Wang, Y.-Z. and H.J. Cooke. Histamine H<sub>2</sub> receptor activation stimulates colonic secretion by activating intrinsic neural circuits containing tachykinin neurons in the guinea pig. *Gastroenterology* 106:A850, 1994.

90. Sidhu, M., Y.-Z. Wang and H.J. Cooke. Mucosal stroking stimulates intrinsic, capsaicin-insensitive tachykinin neurons which regulate colonic secretion in the guinea pig. *Gastroenterology* 106:A1050, 1994.
91. Zafirov, D.H., Y. Xia, H.J. Cooke and J.D. Wood. Actions of tumor necrosis factor (TNF<sub>a</sub>) on electrical and synaptic behavior in the submucous plexus of the guinea-pig small intestine. *Am. Motility Meetings*, 1994
92. Wang, Y.-Z. and H.J. Cooke. Multiple somatostatin receptor subtypes inhibit intestinal secretion triggered by histamine H<sub>2</sub> receptor activation of submucosal neurons. *Gastroenterology* 108:A1015, 1995.
93. Fox, P, L. Erbe and H.J. Cooke. NK<sub>1</sub> receptor gene expression in isolated enterocytes of the guinea pig colon: A role in axon reflexes?. *Gastroenterology* 108:A600. 1995
94. Sidhu, M. and H.J. Cooke. Multiple signaling messengers in secretory reflexes stimulated by mucosal stroking of the guinea pig colon. *Gastroenterology* 108:A1006, 1995.
95. Xia, Y., D.H. Zafirov, P. Mohanraj, H.J. Cooke and J.D. Wood. Identification of tachykinin receptors on neurons identified morphologically in the myenteric and submucous plexuses of guinea pig small intestine. *Gastroenterology* 108:A1017, 1995.
96. Xia, Y., D.H. Zafirov, H.J. Cooke and J.D. Wood. Actions of tumor necrosis factor (TNF $\alpha$ ) on electrical and synaptic behavior in the submucous plexus of guinea pig small intestine. *Gastroenterology* 108:A945, 1995.
97. Xia, Y., O.C. Peck, H.J. Cooke and J.D. Wood. Inflammatory mediators suppress inhibitory neurotransmission in morphologically identified neurons in the submucous plexus of the guinea-pig small intestine. *Neurogastroenterology and Motility* 7: (4), 1995.
98. Sidhi, M. and H.J. Cooke. Secretory reflexes triggered by mucosal stroking involve vasoactive intestinal polypeptide. *Gastroenterology*, 110:A758, 1996
99. Wang, Y.-Z. and H.J. Cooke. Signaling via a protein kinase C pathway modulates substance P' s secretory response in guinea pig distal colon. *Gastroenterology*, 110:A374, 1996.
100. Fox, P., C. Fox, S. Wolfe and H.J. Cooke. Signaling from the nervous to the immune system occurs via NK1 receptor occupancy of mast cells. *Gastroenterology*, 110:A1071, 1996.

101. Xia, Y., H.J. Cooke and J.D. Wood. Interleukin-1 beta and interleukin-6 excite neurons and suppress inhibitory noradrenergic neurotransmission in the submucous plexus of guinea-pig small intestine. *Gastroenterology*, 110:A783, 1996.
102. Wang, Y.-Z., M. Sidhu, L. Alferes and H.J. Cooke. Selective activation of mucosal secretory reflexes by pulses of 5-hydroxytryptamine and substance P define the sequence of neurotransmitter/modulator release. *Gastroenterology* 112: A849, 1997.
103. Wang, Y.-Z., T.M. O'Dorisio, M.S. O'Dorisio, E.A. Woltering, D.H. Coy, W.A. Murphy, P. Gosh and H.J. Cooke. Multi-tyrosinated somatostatin analog, WOC-3B, inhibits histamine H2 receptor-mediated cyclical chloride secretion in the guinea pig colon. *Gastroenterology* 112:A1199, 1997.
104. Wang, Y.-Z., F.L. Christofi, C.Y. Liu, H. Zhang and H.J. Cooke. Role for purinergic A<sub>1</sub> receptors in submucosal secretory reflexes in the guinea pig colon. *Gastroenterology*, 114:A858, 1998.
105. Wang, Y.-Z., L. Alferes, T.M. O'Dorisio, M.S. O'Dorisio, E.A. Woltering, D.H. Coy, W.A. Murphy, P. Gosh and H.J. Cooke. Role for somatostatin receptors in discriminating between mechanosensitive release of 5-HT and PGE<sub>2</sub> in the initiation of secretory reflexes in the guinea pig colon. *Gastroenterology* 114:A858, 1998.
106. Xue, J., F. Christofi, C.Y. Liu, E.J. Goetzl, Y.-Z. Wang and H.J. Cooke. Antisense oligonucleotide suppression of expression of VIP receptors in diverse intestinal cells. *Gastroenterology* 114:A1192, 1998.
107. Cooke, Y.-Z. Wang, L. Alferes, T.M. O'Dorisio, M.S. O'Dorisio, E.A. Woltering, D.H. Coy, W.A. Murphy, P. Gosh. Release of paracrine mediators initiating secretory reflexes is differentially regulated by a somatostatin analog in the guinea pig colon. *Dig. Diseases and Sci.* 73:1853, 1998.
108. Christofi, F.L., J. Guzman, J. Xue, C.Y. Liu, H. Zhang, M. Kim and H.J. Cooke. Differential gene expression of adenosine A<sub>1</sub>, A<sub>2a</sub>, A<sub>2b</sub> and A<sub>3</sub> receptors in the human small and large intestine. *Gastroenterology* 116:A597, 1999.
109. Wang, Y.-Z. and H.J. Cooke. Calcitonin gene-related peptide receptor antagonist, CGRP 8-37, reduced neurally-evoked secretion in the guinea pig colon. *Gastroenterology* 116:A1100, 1999.
110. Kim, M., H. Raybould, H.V. Carey, N.H. Javed and H.J. Cooke. D-Glucose uptake by SGLT-1, the sodium/D-glucose cotransporter, is associated with 5-hydroxytryptamine (5-HT) release from human Bon cells. *Gastroenterology* 116:A616, 1999.

111. Kim, M., N.J. Javed, H. Raybould and H.J. Cooke. Adenosine A1 receptor agonist augments mechanically-evoked release of 5-hydroxytryptamine from Human BON cells. *Gastroenterology* (in press) 2000.

112. Kim, M., N.H. Javed, F. Christofi, J. Xue, H. Raybould and H.J. Cooke Adenosine Acts at A1, A2a and A2b receptors to modulate 5-hydroxytryptamine release from human BON cells. *Gastroenterology* (in press) 2000.

113. Xue, J., F. Christofi and H. J. Cooke. Cloning and expression of the guinea pig vasoactive intestinal polypeptide receptor-1. *Gastroenterology* (in press) 2000.

114. Kim, M., H.J. Cooke, N.J. Javed and H. E.Raybould. D-Glucose stimulates 5-hydroxytryptamine (5-HT) release from chemosensitive human BON cells via SGLT-1. *FASEB J.* (in press) 2000.

**Invited Talks**

Protein transport by kidney tubules. Transport Journal Club, University of Iowa, 1974.

Potassium transport by kidney tubules. Transport Journal Club, University of Iowa, 1975.

Transport characteristics of developing intestine. G. I. Research Group, University of Kansas, April, 1978.

Transport characteristics of newborn rabbit intestine. Department of Physiology, University of Kansas, May, 1978.

Aspirin and intestinal transport. Department of Physiology, University of Kansas, May, 1979.

Neural control of transport. Renal Journal Club, University of Kansas Medical Center, February, 1979.

Pathophysiological of Hirschsprung's disease. Department of Physiology, University of Nevada, Reno, November, 1979. Visiting Professor

Opiate action on gastrointestinal transit in the mouse model for Hirschsprung's disease. Workshop and seminar on Brain-gut Chemical Messengers. University of Nevada, Reno, April, 1982.

Transmucosal movement of serotonin in the intestine. Serotonin workshop, University of Nevada, Reno, March, 1983.

Nerves and Transepithelial Transport. Satellite Symposium Discussion Meeting on the Enteric Nervous System. Flinders University, South Australia, August, 1983.

Neural control of intestinal mucosal function. Department of Physiology, University of Sydney, N.S.W., Australia, September, 1983

The nervous gut. Faculty development series: Women talk about their research/their work. University of Nevada, October, 1983.

Neurobiology of serotonin in the gastrointestinal track. Serotonin Workshop, University of Nevada, Reno, Nevada. April, 1984.

Neural control of mucosal function. Wright State University, Dayton, September, 1984.

Ganglionic control of the intestine. FASEB Theme Symposium, Anaheim, April, 1985.

Neural regulation of intestinal transport. Department of Physiology, Ohio State University. October, 1985.

Neural control of the intestinal epithelium. Department of Physiology, University of Michigan, May, 1987

Intestinal epithelial actions of neuropeptides and transmitters. Surgeon's Gut Hormone Conference, Florissant, Colorado, June, 1987.

Neural messages to the intestinal mucosa. First Wexner Institute for Pediatric Research Symposium, Columbus, Ohio, September, 1987.

Influence of enteric nerves on intestinal epithelial transport. Department of Physiology, Mayo Clinic, Rochester, Minnesota, March, 1988.

Neural regulation of epithelial transport. Department of Physiology, Southern Illinois University, Carbondale, Illinois, March, 1988.

Neuroeffector relations in the intestinal mucosa in vitro. Symposium on the Enteric Nervous System, Tittisee, W. Germany, June, 1988.

Neurohormonal control of epithelial transport. Symposium on Integrative Factors in Gut Function, FASEB Meetings, New Orleans, March, 1989.

Neural regulation of the mucosa. Symposium on Gastrointestinal Tract III: Regulation of Organ and Cellular Functions. FASEB Summer Conference, Copper Mountain, July, 1989.

Neuro-immune regulation of intestinal secretion. Department of Physiology, Louisiana State University, December 4, 1989.

Neuroimmune interactions in control of intestinal secretion. Department of Physiology and Biophysics. Wright State University. December 14, 1989.

Neuro-immunomodulation of intestinal chloride secretion. 9th International Symposium on Exocrine Secretion, Leura, Australia, August 21-25, 1990.

Neuro-immune-epithelial interactions: Effects of histamine. Centre Paul Broca de l'INSERM, Paris, France, November, 1990.

Neuro-Immune communication in the gastrointestinal tract: Effects of histamine. Medical College of Wisconsin, April, 1991.

Influence of calcitonin gene-related peptide on intestinal transport. International Symposium on CGRP, Graz, Austria, July, 1991.

Gastrointestinal Tract IV. Development and Repair-Cellular and Molecular Aspects. Discussant, Intestinal inflammation/anaphylaxis and neural function. FASEB Summer Conference, Copper Mountain, August, 1991.

Histamine actions in the intestine. Daiichi Pharmaceutical Co., Ltd., Tokyo, Japan, November, 1991.

Neuro-immune communication in the intestine. Fujisawa Pharmaceutical Co., Ltd., November, 1991.

Neuro-immune interactions mediating intestinal secretion and contractility, Dept. Physiology, University of Arizona, Tucson, AZ., January, 1992.

Neuromodulation of ion secretion by inflammatory mediators. Symposium on Neuro-Immuno-Physiology of the Gastrointestinal Tract, Tucson, AZ, January, 1992.

Histamine signals coordinate intestinal secretion and contractility. Dept. Physiol. Biophysics, Univ. Illinois, Chicago, IL, April, 1992.

The immune system and intestinal secretion. Grand Rounds. Dept. Medicine, Univ. Illinois, Chicago, IL, April, 1992.

Submucosal neuronal circuitry controlling water and ion transport and the interaction with motility: in vitro studies. Symposium on Advances in Innervation in the Gastrointestinal Tract, Munich, FRG, May, 1992.

Mechanisms of neural-immune interactions. Second International Symposium on Brain-Gut Interactions, Cambridge, England, July, 1992.

Histamine signals in the intestine: interactions of the enteric immune and nervous systems. Dept. Physiology, Temple University, Philadelphia, April, 1993.

Neural effects of histamine and intestinal secretion. Neuroscience Seminar Series. Ohio State University, November, 1993.

Sensory cells and enteric neural reflexes: Their role in altered salt and water transport in the colon. University of Pittsburgh, March, 1994.

Transduction of antigenic signals by enteric nerves into altered epithelial functions. In Symposium: Epithelia as components of the common mucosal immune system, Experimental Biology Meetings, Anaheim, CA, April, 1994.

Intestinal secretion: Role of enteric neural reflexes. Dept. Physiology, Medical University of South Carolina, Charleston, SC, June, 1994

New discoveries in peptide therapy: enteric nervous system. World Congress of Gastroenterology, Los Angeles, October, 1994.

Enteric neural microcircuits and intestinal secretion. Dept. Physiol., Univ. Michigan, May, 1995

Enteric neural microcircuits and intestinal secretion International Symposium: Gastrointestinal Transport and Barrier Function in Health and Disease, Berlin, W. Germany, Sept., 1995

Enteric nervous system: Gut sensations and reactions. Ohio Physiological Society, Toledo, OH, Sept., 1995.

Enteric reflexes and intestinal secretion. Oklahoma Fdn. for Digestive Research and Dept. Physiology, Univ. Oklahoma; March, 1996

Intramural reflexes and the regulation of gut secretory and motor function: Physiological and clinical implications. State of the art lecture. Am. Motility Society Meeting, Travers City, MI, Sept. 29, 1996

Extracellular signalling to the colonic epithelium: role of enteric nerves. Festschrift for Dr. J. A. Young, Bowral, N.S.W., Australia, October, 1996

Neuroimmune control of ion transport. Keynote speaker. Canadian Digestive Disease Meeting, Quebec City, Canada, February 26-March 2, 1997

Career paths. Am. Physiol. Soc., Women's Mentoring Program, Experimental Biology Meeting, April 7, 1997

Enteric neural circuits and intestinal secretion. Dept. Internal Medicine, Med. College of Virginia, April 14, 1997

The little brain at work: Regulation of intestinal secretion. UCLA Neuroscience Program, Los Angeles, CA, January 20, 1998

Inhibitory adenosinergic modulation of submucosal reflexes regulating secretion. Keystone Conference on Enteric Nervous System, Santa Fe, NM, January 23, 1998

Nerves and secretory mechanisms. 3<sup>rd</sup> International Malpighi Symposium, Monterey, CA, April 17, 1998.

Enteric reflexes and intestinal secretion. Center for Ulcer Research and Education/UCLA/VA, Los Angeles, CA, March 5, 1999

Enteric nervous system control of epithelial transport. In symposium: Enteric nervous system. Gothenburg, Sweden, September 2-4, 1998.

Neurotransmitters in neuronal reflexes regulating secretion. In symposium: Epithelial transport and barrier function: Pathomechanisms in GI disorders. Berlin, Germany, March 25-27, 1999.

## Supervision of Premedical or Medical Student Research Projects

1979 H. Henning University of Kansas Medical Center  
1981 G. Starr University of Nevada  
1981 K. Pitman University of Nevada  
1982 K. Shonnard University of Nevada  
1983 K. Brogan University of Nevada  
1985 J. Wang University of Nevada  
1985 S. Bowen University of Nevada

## Ph.D. Thesis Defense Committees

1974 M. Stout, University of Iowa  
1976 E. Zambraski University of Iowa  
1977 L. Brann University of Kansas Medical Center

1993 Y. Xia Ohio State University  
1996 M. Sidhu Ohio State University

## Research Grants Previously Funded

Principal Investigator; 1974-1976. Am. Heart Assoc.-Iowa Affiliate; 75-G-10. Transport properties of isolated newborn rabbit intestine.

Principal Investigator; 1977-1978. Am. Heart Assoc.-Kansas Affiliate; 77-KS-216. Amino acid transport characteristics of the newborn rabbit intestine.

Principal Investigator; 1979-1980. Am. Heart Assoc.-Kansas Affiliate; 79-KS-537. Potassium transport in rabbit colon.

Principal Investigator; 1982-1987; NIAMDD; Career Development Award 5 KO4-DK01642; Neural and hormonal control of intestinal transport; \$170,000.

Principal Investigator; 1983-1986; NIAMDD; 1 R01-DK29699; Intestinal mucosal function in megacolon mice; \$109,489.

Principal Investigator; 1981-1983; Reno Cancer Center, Inc.; Carcinoid tumors and the gastrointestinal tract; \$13,689.

Principal Investigator; 1983-1984; Eloise Gerry Fellowship, Sigma Delta Tau Graduate Women in Science; Neural control of intestinal mucosal function; \$1500.

Principal Investigator; 1987-1989; NIADKK; 1 R01-AM38104; Intestinal bypass surgery in hibernation; \$211,931.

Principal Investigator; 1985-1987; NIADDK; 1 R01-AM37240; Neural control of human intestinal mucosa; \$242,224.

Principal Investigator; 1985-1987; NIADKK; 1 R01-AM37237; Neural regulation of intestinal mucosa; \$153,761.

Principal Investigator: 1991-1992; Crohn's and Colitis Foundation of America; for conference "Neuro-Immuno\_Physiology of the Gastrointestinal Mucosa-Implications for Inflammatory Diseases"; \$10,0000.

Principal Investigator; 1991-1992; American Gastroenterology Association; for conference "Neuro-Immuno-Physiology of the Gastrointestinal Mucosa-Implications for Inflammatory Diseases";

\$11,466.