April 18, 2016

CURRICULUM VITAE

Robert S. McCuskey, Ph.D.

PRESENT TITLE AND ADDRESSES:

Emeritus Professor and Head of Cell Biology & Anatomy (now renamed Cellular and Molecular Medicine)
Emeritus Professor of Physiology, and of Pediatrics
Department of Cellular & Molecular Medicine
College of Medicine
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EDUCATION:

A.B. (Biology), Western Reserve University, 1960
Ph.D. (Anatomy), Western Reserve University, 1965
Ph.D. Dissertation, "A Dynamic and Static Study of Hepatic Arterioles and Hepatic Sphincters"; Advisor, Edward H. Bloch, M.D., Ph.D.

MAJOR FIELD(S) OF INTEREST

Research. Microscopic anatomy, physiology, pharmacology and pathology of living cells, tissues and organs *in situ*, particularly as related to the micro-vasculature of the liver and hemopoietic organs; application of electronic imaging techniques to microscopic study of living cells, tissues and organs *in situ*; development and use of fluorescent probes and spectrophotometry to study cellular function in intact organs using high resolution *in vivo* microscopic methods. Research during the past 55 years has focused on: (a) the interactive role of bacterial toxins and toxicants (e.g., ethanol, acetaminophen, etc.) with hepatic sinusoidal lining cells in host defense mechanisms and pathophysiology of the liver; (b) the role of milk-borne substances in the development of the neonatal liver and intestine as well as their protection from injury, e.g., necrotizing enterocolitis; and (c) ageing of the hepatic microvascular system, as well as collaborative studies with Professors B. and R. Urbaschek (Univ Heidelberg), DeLeve (Univ. S. California), Farrell and Teoh (Australian Nat. Univ), LeCouteur (Univ. Sydney), Smedsrød (Univ. Tromsø), and others.

Teaching. Microscopic anatomy, microvascular structure and function, specialized methods of microscopy, production of teaching films and video tapes illustrating functional microscopic anatomy of living cells, tissues and organs.

EMPLOYMENT AND ACADEMIC APPOINTMENTS

Professor Emeritus of Cellular and Molecular Medicine (formerly Cell Biology and Anatomy), Professor Emeritus of Physiology, and of Pediatrics, University of Arizona, 2006 – present
Professor and Head of Cell Biology & Anatomy, College of Medicine, University of Arizona, 1986 - 2005
Professor of Physiology, College of Medicine, The University of Arizona, 1988 – 2005
Professor of Pediatrics, College of Medicine, The University of Arizona, 1998 - 2005
Investigator, Center for Toxicology/Southwest Environmental Health Sciences Center, The University of Arizona, 1995 - 2005.
Senior Research Associate, Arizona Heart Center, The University of Arizona, 1990 - 2005.
Senior Research Associate, Steele Memorial Children's Research Center, The University of Arizona, 1992 - 2005.
Adjunct Professor, Department of Cell Biology and Histology, Institute for Medical Biology, University of Tromsø, Tromsø, Norway, 2001-2008.
Research Scientist (WOC), B.W. Zweifach Microcirculation Laboratories, Tucson VA Medical Center, 1986 - 1991
Research Professor of Anatomy (Adjunct), School of Medicine, West Virginia University, 1987
Professor and Chairman of Anatomy, School of Medicine, West Virginia University, 1978 - 1986
Gastprofessor, Universität Heidelberg; Sept. - Oct., 1981; August-November, 1982, and June-Sept., 1983 (Senior U.S. Scientist Humboldt Prize Awardee), re-invitation for three months in 1987 – 1988, 1993 – 1994, and 2001 - 2002.
Professor of Anatomy, College of Medicine, University of Cincinnati, 1975 - 1978
Associate Professor of Anatomy, College of Medicine,University of Cincinnati,1971-1975
Assistant Professor of Anatomy, College of Medicine, University of Cincinnati,1967-1971
Instructor in Anatomy, University of Cincinnati, 1965 - 1967
NIH Predoctoral Research Fellow, Department of Anatomy, School of Medicine, Western Reserve University, 1960 - 1965

PROFESSIONAL SOCIETY MEMBERSHIPS:

American Association of Anatomists, 1967 to present (Emeritus 2008)
American Association for the Advancement of Science, 1960 to 2005
American Heart Association, Basic Science Council, 1978 to 2005
American Society for Hematology, 1971 to 1990
Association of Anatomy, Cell Biology and Neurobiology Chairpersons, 1978 to present (Emeritus 2005)
American Society for the Study of Liver Diseases, 1981 to present (Emeritus 2008)
European Microcirculatory Society, 1966 to present (Emeritus 2009)
International Endotoxin Society, 1990 to present (Emeritus 2005)

International Society for Biomedical Research on Alcoholism, 1990 to present (Emeritus 2008)
International Society for Experimental Hematology, 1970 – 1993
International Society for Hepatic Sinusoidal Research, 2009- present, Life Honorary Member

International Society of Lymphology, North American Chapter, 1981 -1986
International Society for Transport of Oxygen to Tissue, 1973 - 1986
Microcirculatory Society, 1963-present (Emeritus 2009)
Microscopy Society of America, 1994 to present (Emeritus 2005)
Midwest Anatomists Association, 1966 - 1978
Research Society on Alcoholism, 1990 to present (Emeritus 2005)
Sigma Xi, 1966 to present (Emeritus 2005)
Society for Experimental Biology and Medicine, l976 - 1994
Southern Society of Anatomists, 1978 - 1986
Shock Society, 1982 to present (Emeritus 2005)

HONORS AND AWARDS:

Recipient (1 of 6), Microcirculatory Society/National Heart Institute Research Young Investigator Travel Award, to attend and present competitively selected paper at IV European Conference on Microcirculation, Cambridge, England, June, 1966.

Travel Award from American Society Pharmacology and Experimental Therapeutics, to attend and present invited paper, Symposium on "Effects of Drugs on Sequential Segments of the Peripheral Vasculature," IV International Congress on Pharmacology, Basel, Switzerland, July, 1969.

Research Career Development Award, National Institute of Arthritis and Metabolic Diseases, N.I.H., July 1, 1969 - June 30, 1974.

Guest Professor, Div. Immunology and Serology, Institute for Hygiene and Medical Microbiology, Klinikum Mannheim, University of Heidelberg, Mannheim, West Germany, September-October, 1981.

Alexander von Humboldt Stiftung, Distinguished Senior U.S. Scientist Prize from the Federal Republic of Germany, March, 1982 (for outstanding achievement in high resolution *in vivo* microscopy of organs). Re-invitation for 3 months; 1987-88, 1993-94, and 2001-02.

Guest Professor, Div. Immunology and Serology, Institute for Hygiene and Medical Microbiology, University of Heidelberg, Mannheim, West Germany, August-November, 1982 and June-September, 1983. Re-invitation for 3 months during 1987-88, 1993-94 (Dept. of Internal Medicine), and 2001-02 (Dept. of Surgery).

Guest Professor, Keio University Medical Society, Tokyo, 1985, 1992, 1998, 2000.

Nishimaru Award (first time award given; for distinction as a scientist and the important contribution to the Japanese Society for Microcirculation), July, 1987, Presented at IV World Congress for Microcirculation, Tokyo, Japan.

Professor (adjunct), Department of Cell Biology and Histology, Institute of Medical Biology, University of Tromsø, Tromsø, Norway, 2001 – 2008.

American Association of Anatomists, Board of Directors, 1995-1999; President-Elect, 2001-2003; President, 2003-2005; Past-President, 2005-2007.

Eugene M. Landis Research Award, The Microcirculatory Society (USA), April 2004, Presented at the 50th Anniversary Banquet of the Microcirculatory Society, Washington, D.C.

Asian Union for Microcirculation Award, Asian Union for Microcirculation, Presented at 6th Asian Congress for Microcirculation, Tokyo, Japan, February, 2005

Grace Award, College of Medicine, University of Arizona, December, 2005

Williams Evans Visiting Fellow, University of Otago, Dunedin, New Zealand, February 27- March 19, 2006

Morley Science Medal, Western Reserve Academy, awarded to an alumnus or alumna for scientific achievements that have made a significant contribution to a field of basic or applied science, June 10, 2006

Elected, Fellow of the American Association of Anatomists, 2007.

Henry Gray/Lippincott Williams & Wilkins Scientific Achievement Award (American Association of Anatomist's highest scientific honor recognizes unique and meritorious contributions to and achievements in anatomical sciences by a distinguished member). April 8, 2008.

Elected, Fellow of the American Association for the Study of Liver Diseases (inaugural class of AASLD Fellows), 2014.

UNIVERSITY SERVICE:

College of Medicine, University of Cincinnati:

Study Committee on Medical Illustration, 1968 - 1969.
Biomedical Communication Advisory Committee, 1969 - 1971.
Basic Science Seminar Committee, 1969 - 1971. Cardiovascular
Curriculum Review Subcommittee, 1969 - 1978. Renal/Fluid Balance
Curriculum Review Committee, 1969 - 1970; 1977 - 1978.
Biomedical Engineering Committee, 1970 - 1975; Chairman, 1972 - 1974.
Animal Care Committee, 1971 - 1978; Chairman, 1976 - 1978.
Microscope Committee, 1972 - 1978.
Planning and Implementation Committee, 1973 - 1978.
Moveable Equipment Allocation Committee (new Medical Sciences Building), 1973.
Copying and Duplication Committee, 1973 - 1977.
Department of Anatomy, Chairman's Advisory Committee, 1975 - 1978.
Dean's Ad Hoc Committee on Committees, 1977 - 1978.
Periodic Review Committee for Dept. of Lab. Animal Medicine, 1977 - 1978.

University of Cincinnati:

Biomedical Engineering Committee, 1972 - 1975; Chairman, 1974 - 1976.
Biomedical Engineering Steering Committee, 1976.
Animal Welfare Committee, 1973 - 1978.

School of Medicine, West Virginia University:

Executive Faculty Committee, 1978 - 1986.
Educational Advisory Council, 1979 - 1986.
Biochemistry Chairperson Search Committee, Chairman, 1980 - 1981.
Dean Search Committee, 1982.
Dean's Strategic Planning Task Force, 1983 - 1986.
Dean's Task Force on Basic Science Faculty Productivity, Chairman, 1984 - 1985.
Cancer Center Director Search Committee, 1985.
Medicine Chairperson Search Committee, Chairman, 1985 - 1986.
LCME Accreditation Self-Study Task Force, 1985 - 1986.

School of Dentistry, West Virginia University:

Faculty Council, 1978 - 1986.
Accreditation Site-Visit Coordinating Committee, 1984 - 1986.

Medical Center, West Virginia University:

Microscope Committee, Chairman, 1983 - 1986.
Mary Babb Randolph Cancer Center, Basic Science Planning Committee, 1986.

West Virginia University:

President's Ad Hoc Committee for Graduate Studies, 1981 - 1983.

College of Medicine, University of Arizona:

Council of Department Heads and Division Directors, 1986 – 2005.
Life Sciences Program Subcommittee for Life Sciences Building North, 1987 - 1990.
Student Progress Committee, 1987 - 1990.
Academic Review Committee, Department of Pharmacology 1987 - 1988.
Research and Development Committee, Dean's Representative Tucson VA Medical Center, 1988-1990.
LCMC Accreditation, Sub Committee F, Basic Science Self-study, 1990.
Cancer Center Basic Science Director Search Committee, 1990 - 1991.
Pharmacology Head Search Committee, 1991 - 1993; Chairman, 1993.
Heart Center Sunset Review Committee, Chairman, 1991.
University Heart Center, Executive Committee, 1991 – 2006.
Steering Committee, Comprehensive Analysis and Planning Project, 1993 -1999.
Search Committee, Director of Liver Research Institute, 1998 - 2000.
Administrative Review Committee for R.S. Weinstein (Pathology), 2001-2002
Administrative Review Committee for W.H. Dantzler (Physiology), Chair, 2002-2003

ArizonaMed Curriculum Steering Committee , 2004- 2005.

The University of Arizona

Committee of Biological Science Department Heads, 1986 - 2005.
Ad Hoc Committee for Core Electron Microscope Facilities, Chairman, 1988
User Committee, Biotechnology-Life Sciences Core Facility for Electron Microscopy, 1989 - 1993 (Chairman, 1989 - 1991)
Ad Hoc Committee on Faculty Sanctions, 1992.

PROFESSIONAL EXTRAMURAL SERVICE:

American Association of Anatomists
- Board of Directors, 1995 -1999; 2001- 2007
- Nominating Committee (Chairman), 1997, 2007
- Subcommittee on Revision of the Constitution, 1998 to 2003.
- ad hoc Transition Committee (Chairman), 1999 to 2002
- Anatomical Record Editor Search Team, 2004- 2005.
- President-Elect, 2001-2003
- President, 2003-2005
- Past-President, 2005-2007
- Nominating Committee, 2007-2008
- Nominations Task Force, 2007-2008
- Journal Trust Fund and Investment Committee, 2009-2015
- Henry Gray Scientific Achievement, Award Committee, 2010-2015
- A.J. Ladman Exemplary Service Award Committee, 2010-2015
- Fellows Selection Committee, 2012-2014

Microcirculatory Society
- Executive Committee, 1967 - 1970
- Program Committee, 1974
- Film Committee, 1974 - 1984; Chairman, 1975 - 1978 and 1979 - 1984.
- Ad hoc Committee, I World Congress on Microcirculation, Toronto, 1975.
- International Liaison Committee, 1977; Chairman, 1985 - 1987.
- History Committee, Chairman, 1987 - 1993.
- Representative to Executive Committee, European Society for Microcirculation 1989 - 1996.
- Historical Committee, 2003-2008; Chairman, 2004-2008.

Consultant, Procter and Gamble Co., 1966 - 1968; 1971 - 1975; 1984 - 1986.
Invited to provide film for ABC-TV documentary "Unseen World" produced by Jules Powers, New York, N.Y. Film submitted was on Microcirculation of the Blood, October, 1969.
College Hill Forum (Cincinnati), 1968 - 1973; Board of Directors, 1971 - 1972.
Consultant, Hoffman-LaRoche Co., 1972 - 1975.
Citizens School Committee (Cincinnati), Board of Directors, 1970 - 1972.
Lecturer, Advanced Placement Biology Program, Walnut Hills High School (Cincinnati), 1972 -1978.
Research Committee, S.W. Ohio Heart Association, 1973 - 1978.
Vice Chairman, Engineering in Biology and Medicine Subgroup, I.E.E.E., Cincinnati Chapter, 1973 - 1975.

Associate Editor, *Microvascular Research*, 1974 - 1984.

West Virginia State Anatomical Board, 1978 - 1983; Chairman, 1978 - 1983 (appointment by the Governor). West Virginia Board of Regents Anatomical Board, 1983 - l986; Chairman, 1983 - 1986 (appointed by West Virginia Board of Regents).

Scientific Organizing Committee, II International Kupffer Cell Symposium (9/82), Noordwijkerhout, The Netherlands, 1981 - 1982.

Invited to provide film for, "Blood-the Microscopic Miracle", produced by Encyclopedia Britannica, Chicago, Illinois, 1982.

NIH (NHLBI) Site visit (ad hoc member CVB study section), Albert Einstein School of Medicine, February, 1983.

Invited chairman and organizer of Symposium on "Hepatic and Splenic Microcirculation", III World Congress for Microcirculation, Oxford, England, September 9-14, 1984.

External grant reviewer, Canadian Liver Foundation, 1984 - 2006.

External grant reviewer, National Science Foundation, 1980 - 2006.

External grant reviewer, Medical Research Council of Canada, 1985 - 2006.

Scientific Organizing Committee, III International Kupffer Cell Symposium (9/85), Strasbourg, France, 1984 - 1985.

Board of Directors, Kupffer Cell Foundation, Leiden, The Netherlands 1985 - 2000.

Associate Editor, *Histology and Histopathology*, 1985 – 1994.

Invited Co-Chairman, Symposium on "Liver Metabolism," American Association of Anatomists Meeting, Reno, Nevada, April 7, 1986.

External grant reviewer, Veterans Administration Research Council, 1986 –2006.

External grant reviewer, National Heart Foundation of New Zealand, 1986 – 2006.

External grant reviewer, Belgian National Fund for Scientific Research, 1987 – 2005.

Invited co-chairman and organizer of Symposium on "Hepatic Microcirculation", IV World Congress for Microcirculation, Tokyo, Japan, July 28,1987.

Invited co-chairman, Video and Movie Session on Organ Microcirculation, IV World Congress for Microcirculation, Tokyo, Japan, July 29, 1987.

Invited co-chairman, Symposium on Gastroenterological Disorders, Satellite Symposium on Microcirculation in Circulatory Disorders, Osaka, Japan, August 1, 1987.

Scientific Organizing Committee, IV International Symposium on Cells of the Hepatic Sinusoid (9/88), Titisee, West Germany, 1987 - 1988.

Invited to provide film and consult on production of one hour, television documentary on "The Liver" (part of six hour series on "Science of the Human Body"). Production by NHK (Japan Broadcasting Corp), Tokyo with cooperation of WGBH (Boston), SVT (Stockholm) and NDR (Hamburg), 1987 - 1989.

NIH (DRG, Special Review Section) Ad Hoc Special Study Section SSS-1), 1987.

Consultant, Adamantech, Philadelphia, PA., 1988 - 1989.

Member, Central Coordinating Committee, Liver Tissue Procurement and Distribution System (LTPADS) (NIH Contract with University of Minnesota), 1988 - 2008.

Associate Editor, *Microcirculation*, *Endothelium and Lymphatics*, 1988 - 1992.

Scientific Organizing Committee and Chairman of Local Organizing Committee, V International Symposium on Cells of the Hepatic Sinusoid (9/90), Tucson, AZ., 1988-1990.

Scientific Organizing Committee, VI International Symposium on Cells of the Hepatic Sinusoid (8/92), Antwerp, Belgium 1990 - 1992.

NIH (NIEHS, Special Study Section, RFA 91-01), 1991.

Scientific Organizing Committee, VII International Symposium on Cells of the Hepatic Sinusoid (9/94), Kyoto, Japan, 1992 - 1994.

Editorial Board, Shock - Molecular, Cellular and Systemic Pathobiological Aspects and Therapeutic Approaches, 1993 to 2006.

Chairman and Organizer, Mini-symposium on Reevaluation of the Hepatic Functional Unit, Amer. Assoc. of Anatomists, Experimental Biology 94, Anaheim, CA, April 26, 1994.

Scientific Advisory Board, International Symposium on Liver Innervation, Ehime, Japan, July 2-5, 1995, 1993 - 1995.

Scientific Organizing Committee, VIII International Symposium on Cells of the Hepatic Sinusoid (9/96), Bordeaux, France 1994 - 1996.

Editorial Board, American Journal of Physiology (Gastrointestinal and Liver Physiology), 1995- 2000.

Scientific Organizing Committee, IX International Symposium on Cells of the Hepatic Sinusoid (9/98), Christ Church, New Zealand, 1996 - 1998.

NIH (NIDDK), Special Study Section, RFA DK96-01 for George O'Brien Kidney Research Centers, October 27-29, 1996.

Program Advisory Committee, NIAAA Alcohol Research Center, Louisiana State University Medical Center, New Orleans, LA, 1997-2002.

NIH (NIDDK), Special Study Section, RFA-DK 98-012, Digestive Disease Core Centers, December 10 and 11, 1998.

Scientific Advisory Board, Symposium on Hepatic and Splanchnic Circulation in Health and Disease, Inverness, Scotland, June 20-23, 1999.

NIH (NIDDK), Special Study Section, RFA-DK 00-017, Digestive Disease Core Centers, March 16-17, 2000

Scientific Organizing Committee, X International Symposium on Cells of the Hepatic Sinusoid (9/2000), Southampton, England, 1998-2000.

Organizing Committee, IUPS Satellite Meeting, Hepatic and Splanchnic Circulation in Health and Disease, Dunedin, New Zealand, (8/2001), 1998-2001.

Co-Organizer (with A.M. Wheatley), Symposium on Hepatic Microcirculation in Health and Disease, 7th World Congress for Microcirculation, Sydney, Australia, August 20, 2001.

Scientific Organizing Committee, XI International Symposium on Cells of the Hepatic Sinusoid (9/2002), Tucson, Arizona USA, 2000-2002.

Editorial Board, American Journal of Physiology (Heart & Circulatory Physiology), 2000 to 2005.

NIH (NIDDK), Special Study Section, RFA-DK 01-027, Digestive Disease Core Centers, November 30, 2001.

Editorial Board, Microcirculation, 2002 - 2010.

Editorial Board, Comparative Hepatology, 2002- 2010.

NIH Special Emphasis Study Section, ZRG1 CDF-3 (Electron Microscopy Shared Instrumentation Grants), June 30, 2003.

NIH, Hepatobiliary Pathophysiology Study Section, HBPP, February 23-24, 2004.

Editorial Board, Hepatology, 2004 to 2006.

Co-organizer with K. Wake, Minophagen International Symposium 2006, "Liver Cell Injury, Pathogenesis and Therapeutic Implications," Tokyo, Sept. 8, 2006

NIH Special Emphasis Study Section, 2006/01 ZES1 JAB-C (AB), Superfund Basic Research and Training Program, Sept. 21 and Oct. 17-20, 2005.

NIH, Special Study Section (Chairman), RFA-AA-07-001, Developmental/Exploratory Alcohol Research Centers (P20), Washington, DC, April 11, 2007.

Consultant on Anatomical Education, University of Mississippi Health Sciences Center, Jackson, MS, April 12-13, 2007.

NIH, Special Study Section (Chairman), ZAA1 GG-01, AA-1 and AA-4 Member Conflict Applications, teleconference, November 13, 2008.

Ad hoc editorial reviewer for:

Acta Anatomica
Alcoholism: Clinical and Experimental Research
American Journal of Anatomy
American Journal of Physiology
Anatomical Record
Archives of Internal Medicine
Biochemistry and Pharmacology
Circulatory Shock
Critical Care Med
Clinical Anatomy
Comparative Hepatology
Digestive Diseases and Sciences
Experimental Hematology
Free Radicals in Biology and Medicine
Gastroenterology
Hepatology
Hepatology Research
Histochemical Journal
Infection and Immunity
Journal of Clinical Investigation
Journal of Hepatology
Journal of Immunology
Journal of Neurology
Journal of Theoretical Biology
Laboratory Investigation
Leukocyte Biology
Life Science
Liver
Liver International
Microcirculation
Microvascular Research
Molecular Pharmacology
Science
Shock
Toxicology and Applied Pharmacology
Toxicological Science

MANUSCRIPTS

1. Bloch, E.H., R.S. McCuskey, G. Tucker, and J. Mencin. The effect of cellular aggregation on pressure-flow relationships in the microvascular system. Angiology 12:473-476, 1961.

2. McCuskey, R.S. A dynamic and static study of hepatic arterioles and hepatic sphincters. Amer. J. Anat. 119:455-487, 1966.

3. McCuskey, R.S. Dynamic microscopic anatomy of the fetal liver. I. Microcirculation. Angiology 18:648-653, 1967.

4. McCuskey, R.S. Dynamic microscopic anatomy of the fetal liver. II. Effect of pharmacodynamic substances on the microcirculation. Biblio. Anat. 9:71-75, 1967.

5. McCuskey, R.S. Erythropoietin: Effect on the living fetal hepatic microvascular system *in situ*. Life Science 6:2129-2133, 1967.

6. McCuskey, R.S. Dynamic microscopic anatomy of the fetal liver. III. Erythropoiesis. Anat. Rec. 161:267-280, 1968.

7. McCuskey, R.S., S.G. McClugage, Jr., T.J. Moore, and M.L. Miller. Response of the fetal microvascular system to maternal hypoxia. Proc. Soc. Exper. Biol. Med. 132:636-639, 1969.

8. McCuskey, R.S. and T.M. Chapman. Microscopy of the living pancreas *in situ*. Amer. J. Anat. 126:395-408, 1969.

9. McCuskey, R.S. Microscopic methods for evaluating drug action at the cellular level in living organs "in situ". In: Symposium on the effects of drugs on sequential segments of the peripheral vasculature", Proc. 4th International Congress on Pharmacology, Basel, Switzerland (July 14-18, 1969), Schwake and Co., Basel, Vol. V, pp. 333-337, 1970.

10. Feleppa, A.E., Jr., H.A. Meineke, and R.S. McCuskey. Studies of transplanted hemopoietic tissue utilizing a modified Algire back chamber. I. Vasoproliferation following erythropoietin stimulation. Scand. J. Hematol. 8:86-91, 1971.

11. McCuskey, R.S., S.G. McClugage, Jr., and W.J. Younker. Microscopy of living bone marrow *in situ*. Blood 38:87-95, 1971.

12. McClugage, S.G., Jr., R.S. McCuskey, and H.A. Meineke. Microscopy of living bone marrow *in situ*. II. Influence of the microenvironment of hemopoiesis. Blood 38:96-107, 1971.

13. McClugage, S.G., Jr., and R.S. McCuskey. *In vivo* microscopic study of the response of hepatic microvascular system to carbon tetrachloride poisoning. Microvas. Res. 3:354-360, 1971.

14. Fehn, P.A., and R.S. McCuskey. Response of the fetal mesenteric microvascular system to catecholamines. Microvas. Res. 3:104-109, 1971.

15. Fehn, P.A., and R.S. McCuskey. Development of the innervation of the fetal mesenteric microvasculature. Z. Zellforsch. u. mikro. Anat. 118:1-11, 1971.

16. McCuskey, R.S. Sphincters in the microvascular system. Microvas. Res. 2:428-433, 1971.

17. McCuskey, R.S. Effects of anti-erythrocyte serum on the maternal and fetal microvascular systems. Microvas. Res. 4:293-294, 1972.

18. Miller, N.L., C.R. Basom and R.S. McCuskey. Temporary lobulation in cartilaginous models of long bones. Anat. Rec. 172:523-527, 1972.

19. McCuskey, R.S., H.A. Meineke, and S.F. Townsend. Studies of the hemopoietic microenvironment. I. Changes in the microvascular system and stroma during erythropoietin regeneration and suppression in the spleens of CF_1 mice. Blood 39:697-712, 1972.

20. McCuskey, R.S., H.A. Meineke, S.M. Kaplan. Studies of the hemopoietic microenvironment. II. Effect of erythropoietin on the splenic microvasculature of polycythemic CF_1 mice. Blood 39:809-813, 1972.

21. McClugage, S.G., Jr., and R.S. McCuskey. Relationship of the microvascular system to bone resorption and growth *in situ*. Microvas. Res. 6:132-134, 1973.

22. Miller, M.L. and R.S. McCuskey. Innervation of the bone marrow in the rabbit. Scand. J. Haematol. 10:17-23, 1973.

23. McCuskey, R.S., and H.A. Meineke. Studies of the hemopoietic microenvironment. III. Differences in the splenic microvascular system and stroma between Sl/Sl_d and W/W_V anemic mice. Amer. J. Anat. 137:187-198, 1973.

24. Paulo, L.G., R.S. McCuskey, G.D. Fink, B.L. Roh, and J.W. Fisher. Effect of posterior hypothalamic stimulation on reticulocyte release and bone marrow microcirculation. Proc. Soc. Exper. Biol. and Med. 143:986-990, 1973.

25. Schrock, L.M., J.T. Judd, H.A. Meineke, and R.S. McCuskey. Differences in the concentrations of acid mucopolysaccharides between spleens of normal and polycythemic CF_1 mice. Proc. Soc. Exper. Biol. and Med. 144:593-595, 1973.

26. Bloch, E.H., and R.S. McCuskey. The Cardiovascular System. In: Histology, (eds. R.O. Greep and L. Weiss), 3rd Ed., McGraw-Hill, New York, 1973, pp. 315-337.

27. McCuskey, P.A., R.S. McCuskey, and H.A. Meineke. Studies of the hemopoietic microenvironment. IV. "In vivo" microscopic and histochemical study of allografts of bone marrow in the hamster cheek pouch chamber. Exp. Hematol. 3:297-308, 1975.

28. Reilly, F.D., R.S. McCuskey, and H.A. Meineke. Studies of the hemopoietic microenvironment. VIII. Adrenergic and cholinergic innervation of the murine spleen. Anat. Rec. 185:109-118, 1976.

29. Rosenblum, I.Y., R.S. McCuskey, N.C. McNeal, G.A. Kerckaert, L. Flora, and C.A. Metzger. The effects of EHDP on regenerating trabecular bone using *in vivo* microscopic, light and electron microscopic, and electron microprobe techniques. Calcif. Tiss. Res. 20:91-104, 1976.

30. McCuskey, R.S. and P.A. McCuskey. *In vivo* and electron microscopic study of the splenic microvascular system. In: Microcirculation, Vol. 1, (eds. J. Grayson and W. Zingg), Plenum Press, New York, 1976, pp. 352-353.

31. Reilly, F.D. and R.S. McCuskey. Neural influence in the humoral regulation of the splenic microvasculature. In: Microcirculation, Vol. 1, (eds. J. Grayson and W. Zingg), Plenum Press, New York, 1976, pp. 356-357.

32. McCuskey, R.S., H.A. Meineke, and P.A. McCuskey. Specific erythropoietin related changes in the splenic microcirculation during hypoxic and posthypoxic polycythemia: Comparison with other organs. In: Microcirculation, Vol. 1, (eds. J. Grayson and W. Zingg), Plenum Press, New York, 1976, pp. 359-360.

33. Liebert, T.C., R.P. Chartoff, S.L. Cosgrove and R.S. McCuskey. Subcutaneous implants of polypropylene filaments. J. Biomed. Materials Res. 10:939-951, 1976.

34. Bloch, E.H. and R.S. McCuskey. Biodynamics of phagocytosis: An analysis of the dynamics of phagocytosis in the liver by *in vivo* microscopy. In: Kupffer Cells and Other Liver Sinusoidal Cells (eds. E. Wisse and D.L. Knook), Elsevier, Amsterdam, pp. 21-32, 1977.

35. McCuskey, R.S. and H.A. Meineke. Studies of the hemopoietic micro-environment. V. Erythropoietin induced release of vasoactive substance(s) from erythropoietin-responsive stem cells. Proc. Soc. Exper. Biol. and Med. 156:181-185, 1977.

36. Reilly, F.D. and R.S. McCuskey. Studies of the hemopoietic microenvironment. VI. Humoral regulatory mechanisms in the splenic microvascular system of mice. Microvas. Res. 13:79-90, 1977.

37. Reilly, F.D. and R.S. McCuskey. Studies of the hemopoietic microenvironment. VII. Neural mechanisms in splenic microvascular regulation in mice. Microvas. Res. 14:293-302, 1977.

38. McCuskey, R.S. and P.A. McCuskey. "In vivo" microscopy of the spleen. Biblio. Anat. 16:121-125, 1977.

39. McCuskey, R.S. and H.A. Meineke. Erythropoietin and the hemopoietic microenvironment. In: Kidney Hormones, Vol. II. Erythropoietin. (ed. J.W. Fisher), Academic Press, New York, pp. 311-327, 1977.

40. Reilly, F.D., P.A. McCuskey and R.S. McCuskey. Intrahepatic distribution of nerves in the rat. Anat. Rec. 191:55-68, 1978.

41. McCuskey, R.S., F.D. Reilly, P.A. McCuskey and R.V.W. Dimlich. "In vivo" microscopy of the hepatic microvascular system. Biblio. Anat. 18:73-76, 1979.

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INVITED SYMPOSIUM PRESENTATIONS:

Symposium on "Effects of Drugs on Sequential Segments of the Peripheral Vasculature," IV International Congress on Pharmacology, Basel, Switzerland, July, 1969.

Symposium on "The Precapillary Sphincter." Microcirculatory Society, Chicago, April 16, 1971.

"Workshop on Hemopoietic Microenvironment," Scripps Clinic, La Jolla, California, August 8-9, 1974.

Symposium on "Intravital microscopy of the surface of the kidney and other organs," IX World Conference, European Society of Microcirculation, Antwerp, Belgium, July 5-9, 1976.

I International Kupffer Cell Symposium, Noordwijkerhout, The Netherlands, Sept. 4-7, 1977.

Symposium on "Intravital microscopy of organs," X World Conference, European Society for Microcirculation, Cagliari, Italy, October 23-28, 1978.

Symposium on "Communications of Liver Cells," Falk Foundation Nr. 27, Basel, Switzerland, October 3-4, 1979.

Symposium on "Cell Injury in Shock, Anoxia and Ischemia," Easton, Maryland, September 16-19, 1979.

Opening Main Lecture - "*In vivo* microscopy of internal organs." XI International Congress of Anatomy, Mexico City, Mexico, August 17-23, 1980.

Dedication Lecture, Laboratory of Cell Biology and Histology, Free University of Brussels, Brussels, Belgium, October 23, 1980.

International Colloquium - "Bacterial Infections: Mechanisms of Pathogenicity and Host Defense". University of Heidelberg, Heidelberg, West Germany, December 11-12, 1981.

II International Kupffer Cell Symposium, Noordwijkerhout, The Netherlands, August 29-September 2, 1982.

Symposium on "Microcirculation of the Alimentary Tract - Physiology and Patho-physiology," Hong Kong, March 28-30, 1983.

Symposium on "Morphologic and Functional Changes during the Development of Shock," 6th Annual Conf. on Shock, Jackson Hole, Wyoming, June 5-8, 1983.

Symposium on "The Hepatic Microcirculation," University of Toronto, Ontario, Canada, April 26, 1984.

Symposium on "Functional Heterogeneity of Liver Parenchyma," International Congress of Histochemistry, Helsinki, Finland, August 5-11, 1984.

Main Lecture, III Meeting on Cytoprotection and Biology, Kyoto, Japan, January 26, 1985.

4th Pfefferkorn Conference on Biological Specimen Preparation, Grand Canyon, Arizona, March 25-30, 1985.

Flemish Gastroenterology Society, Brussels, Belgium, November 16, 1985.

Symposium on "Liver Metabolism," American Association of Anatomists Meeting, Reno, Nevada, April 7, 1986.

International Symposium on "Perspectives on Bacterial Pathogenesis and Host Defense," in honor of the 600th anniversary of the University of Heidelberg, Heidelberg, Federal Republic of Germany, April 20-23, 1986.

FASEB Summer Research Conference on the "Physiology and Pathophysiology of the Splanchnic Circulation," Vail, Colorado, July 20-25, 1986.

VI International Gstaad Symposium, "The Liver; handling of Endo- and Xenobiotics," Gstaad, Switzerland, September 8-10, 1986.

German Gastroenterology Society, Hannover, Federal Republic of Germany, October 2-4, 1986.

Satellite Congress of the IV World Congress for Microcirculation, Video Session Symposium, "Visualization of Splanchnic Microcirculation," Beijing, China, July 20-22, 1987.

IV World Congress for Microcirculation, Symposium on "Hepatic Microcirculation," Tokyo, Japan, July 26-July 30, 1987. Symposium on "Microcirculation in Circulatory Disorders," Osaka, Japan, July 31-August 2, 1987.

Workshop on the Hemodynamic Aspects of Liver Disease, Montreal, Canada October 23-24, 1987.

Symposium on "Cell movement in the organism and in tissue culture," 12th Annual Meeting of Contact Group on Intercellular Communication in Normal and Pathological Morphogenesis, Brussels, Belgium, November 17, 1989.

NIH (NIAAA) Alcohol and AIDS Network Conference, Tucson, AZ, April 26-29, 1989.

Marion Barnhart Memorial Symposium, "New Concepts in Splenic Physiology," SEM-1990, Bethesda, MD, May 9, 1990.

1st Congress of the International Endotoxin Society, Plenary Lecture, San Diego, CA, May 10-13, 1990.

Symposium on "Hepatic Sinusoidal Cell Functions," Internat. Congress of Mucosal Immunology, Tokyo, Japan, July 22-27, 1990.

V International Symposium on Cells of the Hepatic Sinusoid, Opening Lecture, Tucson, AZ, August 26-30, 1990.

VI Australian-New Zealand Symposium on Microcirculation, Opening Lecture, Lorne, Victoria, Australia, February 3-5, 1991 (by video).

Symposium on "New Frontiers in Intra-vital Microscopy," Microcirculatory Society, Anaheim, CA., April 5, 1992.

AASLD Single Topic Conference: Differentiation of Hepatocytes: Biological and Pathobiological Significance, Mackinac Is., MI June 11-14, 1992.

11th Bodensee Symposium on Microcirculation, Bad Schaffen, Germany, June 26-28, 1992.

III FASEB Summer Research Conference; Physiology and Pathophysiology of the Splanchnic Circulation, Copper Mountain, Co., July 26-31, 1992.

2nd Internat. Conf. on Alcohol, Drugs of Abuse and Immunomodulation, Tucson, AZ September 9-12, 1992.

10th Internat. Conf. of the Cardiovascular Dynamics Soc., Keynote Lecture, Kobe, Japan, September 23-25, 1992.

Workshop on the Hepatic Microcirculatory Unit, Panum Institute, University of Copenhagen, Copenhagen, Denmark, December 4-6, 1992.

NIH (NHLBI) Workshop on Hepatic Veno-occlusive Disease, Bethesda, Maryland, February 25-26, 1993.

Symposium on Alcohol and Hepatic Sinusoidal Cells, Research Society on Alcoholism, San Antonio, Texas, June 19-24, 1993.

1st Asian Congress for Microcirculation, Osaka, Japan, September 26-29, 1993.

1st Annual Conference for Blood Cell and Microvascular Research, Tokyo, Japan, October 2, 1993.

Pancreatic Islet Microcirculation Symposium, Long Beach Regional Medical Education Center, Long Beach, CA, April 15, 1994.

IV FASEB Summer Research Conference; Physiology and Pathophysiology of the Splanchnic Circulation, Copper Mountain, CO., July 24-29, 1994.

Symposium on Participation of LPS in the Pathogenesis of Alcoholic Liver Disease, Research Society on Alcoholism, Maui, Hawaii, June 23, 1994.

Research forum "Pathophysiology of Hepatic Sinusoidal Cells," Osaka City University Hospital, Osaka, Japan, September 10, 1994.

Symposium on Hepatic Sinusoidal Cells and Hepatic Disorders, Juntendo University, Tokyo, Japan, September 12, 1994.

NIAAA 25th Anniversary Symposium, NIH, Bethesda, MD, May 3, 1995.

Symposium on Applied Biomedical Microscopies, Microscopy and Microanalysis '95, Kansas City, MO., August 13-17, 1995.

International Symposium on Liver Innervation, Matsuyama, Japan, July 2-5, 1995.

8th European Congress of Intensive Care Medicine, Athens, Greece, October 18-22, 1995.

Forum on Intravenous Immunoglobulins, Bern, Switzerland, October 23-25, 1995.

Liver Microcirculation in Health and Diseases, AASLD Single Topic Symposium, Reston, VA, June 21-22, 1996.

V FASEB Summer Research Conference; Physiology and Pathophysiology of the Splanchnic Circulation, Copper Mountain, CO., July 28-August 2, 1996.

Symposium on Microcirculation of the Pancreas Related to Function, VI World Congress for Microcirculation, Munich, Germany, August 25-30, 1996.

European Society for Surgical Research, Corfu, Greece, May 18-21, 1997.

Falk Symposium on Hepatic Innervation, Freiburg, Germany, October 5-6, 1997.

Japanese Society for Basic Research on Alcoholism, Tokyo, Japan, March 6 and 7, 1998.

Symposium on Hepatic and Splanchnic Circulation in Health and Disease, Inverness, Scotland, June 20-23, 1999.

Workshop on Hepatic Microcirculation, 4th Asian Congress for Microcirculation, Bandung, Indonesia, February 25-27, 2000.

American Association of Anatomists Symposium on Imaging: Living Tissues, EB2000, San Diego, Ca., April 15, 2000.

Symposium on Hepatic Microcirculation in Health and Disease, 7th World Congress for Microcirculation, Sydney, Australia, August 20, 2001.

AASLD Single Topic Conference, Hepatic Vascular Diseases: Venoocclusive Disease and hepatic Vascular Thrombosis, Atlanta, Georgia, March 7-9, 2002.

Short Course on Xenobiotic-Induced Hepatotoxicity, 12th North American Meeting, International Society for the Study of Xenobiotics, Providence, Rhode Island, October 12-16, 2003.

Organ Microcirculation: A Gateway to Diagnostic and Therapeutic Interventions, 14th Keio University International Symposium for Life Sciences, Tokyo, Japan, December 11-13, 2003. (Keynote Lecture #3)

Eugene M. Landis Award Lecture, Microcirculatory Society, EB2004, Washington, DC, April 18, 2004.

AASLD Postgraduate Course, “Liver Disease: From Bench to Bedside”, Boston, MA, October 29, 2004.

Asian Union for Microcirculation Award Lecture, 6th Asian Congress for Microcirculation, Tokyo, Japan, February 26, 2005.

International Symposium on Energy Metabolism and Oxidative Stress in Liver Pathophysiology, Keynote Lecture, Tokyo, Japan, December 16-17, 2005.

Keystone Symposium on Emerging Genomic Biomarkers Impact Drug Discovery and Clinical Practice and The Molecular and Integrative Basis for Toxic Responses, Victoria, B.C., May 7-11, 2006.

Henry Gray/Lippincott Williams and Wilkins Scientific Achievement Award Lecture, American Association of Anatomists, Experimental Biology 2009, New Orleans, April 19, 2009.

INVITED VISITING PROFESSOR OR LECTURER AT OTHER INSTITUTIONS:

Department of Anatomy, Medical College of South Carolina, July, 1966.
Department of Hematology, Tufts-New England Medical Center, April, 1969.
Department of Anatomy, New York Medical College, May, 1969.
Hoffman-LaRoche, Nutley, N.J., July and November, 1969.
Ohio Valley Section, Society of Experimental Biology and Medicine, Dinner Speaker, November, 1969.
Department of Anatomy, University of Minnesota, January, 1970.
Department of Biology, Neuroscience Visiting Lecture with Dr. J.L. Hall, Xavier University, April, 1970.
Department of Anatomy and Basic Science Seminar, Medical College of Virginia, October, 1970, (2 lectures).
Department of Anatomy, University of North Dakota, December, 1970.
Basic Science Seminar, University of North Dakota, December, 1970.
Miami Valley Laboratories, Procter and Gamble, Cincinnati, Ohio, June, 1971.
Department of Pathology, Duke University Medical Center, March, 1972.
Department of Pharmacology, Tulane University Medical Center, March, 1972.
May Institute, Jewish Hospital, Cincinnati, Ohio, April, 1972.
Biology Division, Oak Ridge National Lab., December, 1972.
Department of Biology, New York University, April, 1974.
Hoffman-LaRoche, Nutley, N.J., February, 1975.
Departments of Anatomy and Pathology, Sesquicentral Lecture Series, Medical University of South Carolina, January, 1975.
Department of Anatomy, George Washington University, October, 1975.
Faculties of Anatomy and Clinical Medicine, University of Heidelberg, Heidelberg and Mannheim, W. Germany, July, 1976, (2 lectures).
Department of Physiology, The University of Arizona, February 1977
Department of AMES-Bioengineering, University of California, La Jolla, February, 1977.
West Virginia University Medical Center, September, 1977.
Department of Anatomy, Oral Roberts University, February, 1978.
University of Leiden, Leiden, The Netherlands, October 26 and 27, 1978, (2 lectures).
Institute for Hygiene and Medical Microbiology, Division of Immunology and Serology, University of Heidelberg, Mannheim, W. Germany, October 10, 1979.
Institute for Hygiene and Medical Microbiology, Division of Immunology and Serology, University of Heidelberg, Mannheim, W. Germany, October 17, 1980.
Department of Medicine, SUNY/Buffalo, December 2, 1980.
Department of Anatomy, Temple University, March 5, 1981.
Department of Pharmacology, Tulane University, April 24, 1981.
Faculty of Clinical Medicine, Univ. of Heidelberg, Mannheim, W. Germany, September and October, 1981 (3 lectures).
Institute of Anatomy, University of Freiberg, West Germany, September 22, 1981.
Institute of Gastroenterology, Medizinische Hochschule Hannover, Hannover, West Germany, October 22, 1981.
Department of Physiology, Louisiana State University, April 26, 1982.
Institute of Experimental Pathology, Medizinische Hochschule Hannover, Hannover, West Germany, September 17, 1982.

Division of Virology, Faculty of Medicine, University Louis Pasteur, Strasbourg, France, October 19, 1982.

Anatomy Institute, University of Bern, Bern, Switzerland, November 11, 1982.

Institute of Physiology, University of Heidelberg, Heidelberg, West Germany, November 16, 1982.

Baxter-Travenol, Morton Grove, Ill, February 3, 1983.

Department of Anatomy, Tokyo Medical and Dental University, Tokyo, Japan, March 24, 1983.

Department of Anatomy, University of Cincinnati, Cincinnati, Ohio, April 21, 1983.

Department of Medicine, Liver Grand Rounds, Sunnybrook Medical Centre, University of Toronto, Ontario, Canada April 25, 1984.

Department of Biophysics, University of Western Ontario, London, Ontario, Canada April 27, 1984.

Miami Valley Laboratories, Procter and Gamble Co., Cincinnati, Ohio, July 31,1984.

Department of Emergency Medicine, University of Cincinnati, Cincinnati, Ohio, November 13, 1984.

Department of Medicine, Keio University, Tokyo, Japan, January 24, 1985.

Department of Medicine, Osaka University, Osaka, Japan, January 29, 1985.

Department of Microbiology, University of Oklahoma, Oklahoma City, Oklahoma, March 3, 1986.

Division of Cardiovascular Disease Research, The Upjohn Co., Kalamazoo, Michigan, April 10, 1986.

Department of Anatomy, University of Arizona, Tucson, Arizona, June 23, 1986.

Institute for Hygiene and Medical Microbiology, Division of Immunology and Serology, University of Heidelberg, Mannheim, W. Germany, September 30, 1986.

Biomedical Engineering Program, Carnegie Mellon University, Pittsburgh, Pennsylvania, October 9, 1986.

Institute for Hygiene and Medical Microbiology, Division of Immunology and Serology, University of Heidelberg, Mannheim, W. Germany, June 16, 1987.

Department of Medicine, Osaka University, Osaka, Japan, August 3, 1987.

Department of Radiology, University of Lund, Lund, Sweden, September 21, 1987.

Pittsburgh Gut Club, Pittsburgh, Pennsylvania, March 14, 1988.

Institute for Hygiene and Medical Microbiology, Division of Immunology and Serology, University of Heidelberg, Mannheim, W. Germany, March 21, 1988, September 21, 1988, and December 13, 1988.

Department of Physiology, Albert Einstein College of Medicine, New York, February 3, 1989.

Division of Gastroenterology, Marion Research Conference Lecture, Wadsworth VA Medical Center, Los Angeles, California, October 20, 1989.

Department of Anatomy, Tokyo Medical and Dental University, Tokyo, Japan, July 23, 1990.

Laboratory of Immunology, National Institute of Dental Research, NIH, Bethesda, Maryland, October 15, 1990.

Oklahoma Medical Research Foundation, University of Oklahoma, Oklahoma City, Oklahoma, February 14, 1991.

Department of Physiology, Louisiana State University School of Medicine, New Orleans, Louisiana, May 20, 1991.

Department of Anatomy, School of Medicine, University of South Florida, Tampa, Florida, June 13, 1991.

Department of Physiology, Osaka University School of Medicine, Osaka, Japan, September 22, 1992.
Department of Medicine, Keio University School of Medicine, Tokyo, Japan, September 28, 1992.
Department of Anatomy, Tokyo Medical and Dental University, Tokyo, Japan, September 29, 1992.
Institute of Anatomy, University of Heidelberg, Heidelberg, Germany, December 7, 1992.
Department of Medicine, Division of Gastroenterology, University of Michigan, School of Medicine, Ann Arbor, Michigan, February 11, 1993.
Department of Pharmacology, University of North Carolina, Chapel Hill, N.C., May 19, 1993.
Upjohn Co., Kalamazoo, MI., December 14, 1994.
Department of Medical Microbiology and Immunology, Texas A&M College of Medicine, College Station, TX, March 9, 1995.
Department of Medicine, Keio University School of Medicine, Tokyo, Japan, June 29, 1995.
Department of Internal Medicine, Tokyo Dental College, Tokyo, Japan, June 30, 1995.
Department of Gastroenterology, Juntendo University, Tokyo, Japan, July 6, 1995.
Department of Anatomy, University of Vienna, Vienna, Austria, September 12, 1995.
Department of Cell Biology and Histology, Free University of Brussels, December 14, 1995.
Department of Anatomy, Cell Biology , and Neurobiology, University of Cincinnati, July 19, 1996.
Liver Disease Research Center, University of Southern California, January 30, 1997.
Department of Cell Biology and Morphological Sciences, School of Medicine and Dentistry, University of the Basque Country, Leioa, Spain, September 2-5, 1997.
Division of Gastroenterology, Department of Medicine, Yale University, October 21, 1997.
Department of Surgery, University of Heidelberg, Heidelberg, Germany, January 26, 1998.
Institute of Anatomy, University of Heidelberg, Heidelberg, Germany, January 27, 1998.
Department of Gastroenterology, Juntendo University, Tokyo, Japan, March 9, 1998.
Department of Medicine, Keio University School of Medicine, Tokyo, Japan, March 10, 1998.
Department of Internal Medicine, Tokyo Dental College, Tokyo, Japan, March 11, 1998.
Department of Cell Biology and Morphological Sciences, School of Medicine and Dentistry, University of the Basque Country, Leioa, Spain, May 21, 1998.
Department of Physiology, East Tennessee State University, Johnson City, TN, August 10, 1998.
Department of Physiology, University of Otago, Dunedin, New Zealand, September 24, 1998.
Department of Internal Medicine, Westmead Hospital, University of Sydney, October 12, 1998.
Department of Experimental Pathology, Institute of Medical Biology, University of Tromso, Tromso, Norway, March 8, 1999.
Department of Anatomy, West Virginia University, Morgantown, WV, April 21, 1999.
Department of Pathology, University of Newcastle, Newcastle upon Tyne, England, June 16, 1999.

Department of Pharmacology and Therapeutics, University of Manitoba, Winnipeg, Manitoba, Canada, October 4, 1999.
Department of Cell Biology and Histology, Free University of Brussels, May 24, 2000.
Department of Anatomy, University of Vienna, Vienna, Austria, June 13, 2000.
Department of Oncology, University of Wisconsin, Madison, WI, October 17, 2000.
Department of Experimental Pathology, Institute of Medical Biology, University of Tromso, Tromso, Norway, December 11, 2000.
Institute for Emergency, Hand, and Reconstructive Surgery, University Clinic of the Saarland, Homburg (Saar), Germany, February 15, 2001.
Division of Gastroenterology, Department of Medicine, University of Washinton, Seattle , WA, March 1, 2001.
Department of Experimental Pathology, Institute of Medical Biology, University of Tromso, Tromso, Norway, May 4, 2001.
Department of Anatomy, University of Vienna, Vienna, Austria, October 8, 2001.
Department of Physiology and Pharmacology, School of Medical Sciences, University of New South Wales, Sydney, Australia, March 19, 2002.
Department of Experimental Pathology, Institute of Medical Biology, University of Tromso, Tromso, Norway, May 9, 2002.
Department of Gastroenterology, Kreiskrankenhaus Hameln, Hameln, Germany, November 19, 2002.
Department of Surgery, University of Heidelberg, Heidelberg, Germany, November 22, 2002.
Otsuka Pharmaceutical Company, Tokushima, Japan, December 15, 2003.
Institute of Medical Biology, University of Tromso, Tromso, Norway, February 27, 2004
University of Southern California/University of California at Los Angeles Research Center for Alcoholic Liver and Pancreatic Disease, Annual Symposium, Keynote Speaker, December 3, 2004.
Department of Experimental Pathology and Anatomy, University of Tromso, Tromso, Norway, September 18, 2005.
Centennial Lecture, Department of Physiology, University of Otago, Dunedin, New Zealand, October 31, 2005.
William Evans Fellow Lecture, Departments of Anatomy and Physiology, University of Otago, Dunedin, New Zealand, February 28, 2006.
William Evans Fellow Lectures, Department of Pathology, Christchurch School of Medicine, University of Otago, Christchurch, New Zealand, March 11 and 13, 2006.
Department of Medicine, University of Montreal, Montreal, Quebec, Canada, January 11, 2007.
Centre for Education and Research on Aging, ANZAC Institute, Concord RG Hospital, University of Sydney, Sydney, Australia, March 12 and 14, 2007.
Department of Gastroenterology and Hepatology, Canberra Hospital, Australian National University, Canberra, ACT, Australia, April 15-23, 2007.
Institute of Biology and Medicine, University of Tromsø, May 22, 2009.
Department of Physiology, School of Medicine, National University of Ireland -Galway, Galway, Ireland, October 7, 2009.
Institute of Molecular Medicine and Experimental Immunology, University of Bonn, Bonn, Germany, October 26, 2009.
Department of Cell Biology and Histology, University of Tromsø, Tromsø, Norway, December 4-9, 2009.

Department of Cell Biology and Histology, University of Tromsø, Tromsø, Norway, May 6-11, 2012.

Department of Gastroenterology and Hepatology, Canberra Hospital, Australian National University, Canberra, ACT, Australia, September 8-16, 2012.

Department of Neurobiology and Anatomy, School of Medicine, West Virginia, University, September 12-13, 2013.

RESEARCH GRANTS AND CONTRACTS:

A microscopic study of hepatic erythropoiesis *in vivo*. (NIH, 1966-1969).

Effect of zinc on inflammation and wound healing. (Procter and Gamble, Co., 1969-1970.

Microcirculation of the blood in living fetuses. (S.W. Ohio Heart Assoc. and Akron Heart Assoc., 1968-1971).

An *in vivo* microscopic study of erythropoiesis. (NIH, 1969 - 1972).

Research Career Development Award for above project. (NIH, 1969 - 1974).

Effect of EHDP on living bone. (Procter and Gamble Co., 1972 - 1974).

In vivo microscopic studies of the transport function of the yolk sac placenta. (Hoffman-LaRoche Co., 1972 - 1975).

Microvascular regulatory mechanisms in organs. (S.W. Ohio Heart Assoc., 1973 - 1976).

Development of *in vivo* bone chambers. (Procter and Gamble Co., 1973 - 1974).

Studies of the hemopoietic microenvironment. (NIH, 1974 - 1976). Hepatic microvascular regulatory mechanisms. (NIH, 1976-1980). Hepatic microvascular regulatory mechanisms. (S.W. Ohio Heart Assoc., 1976 - 1977).

Hepatic microvascular regulatory mechanisms. (Amer. Heart Assoc., 1977 - 1980).

Hemodynamics of sickle cells in the microcirculation. (NIH, 1977 - 1980, inactivated in 1978 in favor of participation in Center Grant).

Diabetic cerebral vasculature structure and function. (NIH, 1977 - 1980), (Principle investigator 1977 - 1978; co-investigator 1978 - 1981, P. Tornheim, P.I.

Hemodynamics events in mammalian cardiogenesis. (S.W. Ohio Heart Assoc.,1977 - 1978) (co-investigator).

Hemodynamics of sickle cells in the microcirculation (NIH, 1978 - 1983, P.I.; part of Sickle Cell Center Grant; B. Cameron, P.I.).

Non-invasive *in vivo* microscopic detection of hepatic neoplasia in aquarium fishes. (Amer. Cancer Soc., 1980 - 1981; Co-PI with D. Hinton).

Hepatic microvascular regulatory mechanisms. (Amer. Heart Assoc., 1981 - 1984; Co-PI with F.D. Reilly).

Kupffer cell function during increased and decreased resistance to endotoxins.(NATO, 1982 - 1986).

Intercellular compartmentation of hepatic glucose metabolism. (WVU-BRSG,1982 - 1983; Co-PI with H.F. Teutsch).

Hepatic microvascular dysfunction during septic shock. (Amer. Heart Assoc., WV Affiliate, 1983 - 1984).

Enzyme-altered foci in fish liver carcinogenesis. (EPA, 1983 - 1985; Co-PI with D. Hinton).

Functional units in teleost liver. (NSF, 1984 - 1987; Co-P.I. with D. Hinton).

"In vivo" microscopic studies of hepatic trans-sinusoidal exchange. (WVU-BRSG, 1984 - 1985; Co-P.I. with E.V. Cilento).

Ultrastructure of canine hepatic sinusoids. (Procter and Gamble Co., 1984 - 1985).

Hepatic hemodynamic and glucotropic regulation. (NIH, 1985 - 1988; Co-PI with F.D. Reilly).

Cellular uptake and transport of liposomes in the liver. (Procter and Gamble Co., 1985 - 1986).

Hepatic microcirculatory transport phenomena. (NSF, 1987 - 1989; Co-PI with E.V. Cilento).

Effect of TNF on mesenteric and hepatic microvasculature, UA-BRSG, 1987 - 1988

STM development, UA-Biotechnology, 1987

Morphometric and intra vital assessment of hepatic microcirculation and Kupffer cell Function; and Microvascular blood flow, granulocyte adherence, and mesenteric local hemorrhage. USAMRDC, 1987 - 1991, PI (subprojects of Microvascular Transport and Flow Characteristics in Experimental Arenavirus Infection, M.A. Katz, P.I.)

Role of Kupffer cells in liver pathophysiology (Arizona Disease Control Research Commission, 1988 - 1991)

Electron microscope facility. (NIH, 1989 - 1990)

Alcohol and hepatic microvascular dysfunction. (NIH, 1988 - 1994, PI)

Effects of ethanol and immunostimulants on Kupffer cell function and liver injury by hepatotoxins. (NIAAA, 1988 - 1994, Co-I; D. Earnest, P.I.) Both NIH above are subprojects of Alcohol, Immunomodulation and Disease Pathogenesis Center Grant, R.R. Watson, P.I.)

Alcohol and alveolar macrophage dysfunction. (NIH, 1990 - 1993; Co-I; R.C. Lantz, P.I.)

ASIP (Small Instrument Grant) - University of Arizona. (NIH, 1991 - 1992)

Role of Endotoxin and Mediators in the Development of Shock. (NATO, 1992 - 1999; Co-PI; R. Urbaschek, PI)

IVIG in Sepsis, Sandoz Pharma LTD, 1993-1998.

Alcohol and Kupffer Cell Function. (NIH, 1994-1998; Co-I; D.L. Earnest, P.I.)

Hepatoprotective Mechanisms of DMSO. (NIH, 1997-2000; Co-I; J. Gandolfi, P.I.)

Philips XL-30 Scanning Electron Microscope. (NIH, 2000-2001)

Graduate Training Program in Environmental Toxicology. (NIH, 1989 - 2004, Member of training faculty; G. Sipes, P.I.)

Graduate Training Program in Physiological Sciences. (NIH, 1991 - 2006, Member of training faculty, W. Dantzler, P.I.)

Role of Milk Bourne Hormones for the Suckling Program Project Grant (NIH, 1991-2001)

Role of Milk-Borne Biological Substances in the Developing Liver. (NIH, 1991 - 2002, PI; part of Role of Milk Bourne Hormones for the Suckling Program Project Grant, R.S. McCuskey, P.I.).

Graduate Training Program in Cardiovascular Physiology. (NIH, 1992 - 2007, Member of Training Faculty, J. Burt, P.I.)

Alcohol, Acetaminophen, and Liver Sinusoid Dysfunction. (NIH, 2000-2006)

EGF in Neonatal Necrotizing Enterocolitis (NIH, 2001-2005; Co-I: B. Dvorak, P.I.)

Mechanisms of EGF-mediated reduction of NEC (NIH, 2005-2010; Co-I: B. Dvorak, P.I.)

Aging and Hepatic Microvascular Dysfunction (NIH, 2006-2009)

STUDENTS, FELLOWS, VISITING SCIENTISTS

Dissertations and Theses Supervised:

"Pulmonary vascular responses to angiotensin and to prostaglandins," Robert L. Wendt, Ph.D., Pharmacology, August, 1968, University of Cincinnati (Partial supervision).

"The vascular morphology of the guinea pig placenta," William Johns, M.S., Anatomy, August, 1968, University of Cincinnati (Partial supervision).

"Chronic microscopic studies of living bone marrow *in situ*," Samuel G. McClugage, Jr., Ph.D., Anatomy, June, 1970, University of Cincinnati.

"Control mechanisms in fetal microvasculature," Paul A. Fehn, Ph.D., Anatomy, June, 1970, University of Cincinnati.

"A study of the effects of erythropoietic stimulation on hematopoietic tissue utilizing a modified Algire back chamber," Alfred E. Feleppa, Jr., Ph.D., Anatomy, June, 1970, Univ. of Cincinnati (Partial supervision).

"Histochemical localization of intercellular macromolecules during osteomorpho-genesis in the fetal rabbit tibia," Marian L. Miller, Ph.D., Anatomy, June, 1971, University of Cincinnati.

"An *in vivo* microscopic study of allografts of bone marrow in the hamster cheek pouch chamber," Patricia A. Reed, M.S., Anatomy, June, 1974, University of Cincinnati.

"An *in vivo* microscopic and histochemical study of the yolk sac placenta of the rat between the 12th and 20th days of gestation," Linda M. Schrock, M.S., Anatomy, June, 1974, University of Cincinnati.

"Degradation of polypropylene surgical implants," Timothy C. Leibert, M.S., Chemical and Nuclear Engineering (Biomedical Engineering), August, 1974, University of Cincinnati (Partial supervision).

"Regulatory mechanisms in the splenic microvascular system of the mouse." Frank D. Reilly, Ph.D., Anatomy, June, 1975, University of Cincinnati.

"The effects of externally applied oxygenated saline solutions on the micro-vasculature and tissue pO_2 of subcutaneous tissue underlying intact and denuded epidermis," Eugene V. Cilento, M.S., Chemical and Nuclear Engineering (Biomedical Engineering), June, 1976, University of Cincinnati.

"Compartmental analysis of the circulation of erythrocytes through the spleens of rats," Eugene V. Cilento, Ph.D. in Chemical and Nuclear Engineering (Biomedical Engineering), August, 1978, University of Cincinnati.

"Characterization of the intensely fluorescent cells in the liver of the rat," Ruth Dimlich, Ph.D. in Anatomy, June, 1980, University of Cincinnati (Partial supervision).

"Characterization of renal allografts in the hamster cheek pouch chambers," Carolyn Looney, Ph.D. in Anatomy, December, 1980, West Virginia University.

"Analysis of some lysosomal enzymes in Kupffer Cells of C_3H/HeJ and C_3HeB/FeJ Mice", Nancy Sacco, M.S. in Anatomy, December, 1982, West Virginia University.

"Hepatic and other systemic responses during experimental sepsis in mice", Nancy Sacco, Ph.D. in Anatomy, May, 1986, West Virginia University.

“Effect of acute ethanol administration on the pancreatic microcirculation of the mouse.” Gillian Hubble, M.S. in Physiological Sciences, December, 1997, The University of Arizona.

“The role of milk-borne epidermal growth factor on hepatic development in artificially reared suckling rats.” Gregory L. Baker, Ph.D. in Cell Biology and Anatomy, December, 2000, The University of Arizona.

Postdoctoral Fellows:

Samuel G. McClugage, Jr., Ph.D. 1970 - 1971. (Recipient of Pharmacia European Travel Award from Microcirculatory Society, 1973).

Eugene V. Cilento, Ph.D. 1978 - 1979.

Thomas Riggs, M.D., 1985 - 1986.

Hiroshi Eguchi, M.D., Ph.D., 1988 - 1991.

Jiro Nishida, M.D., 1991 - 1994.

Wichai Ekataksin, M.D., Ph.D., 1992 - 1994.

Wahyuni Lukita-Atmadja, M.D., Ph.D., 1997 -1998.

Yoshiya Ito, M.D., D.Sci., 1997 –1999; 2001- 2006.

Tore Seternes, Ph.D., 2002

Summer Student Fellows:

Thomas M. Chapman, 1966 - 1967; recipient of Borden Award, 1969. (For best research done as a medical student), University of Cincinnati.

Bernard Feinberg, 1966. University of Cincinnati.

Thomas T. Moore, 1968 - 1969; recipient of Roche Award, 1969. (For research done as a medical student in 1969). University of Cincinnati.

C. Thomas Meyer, 1969. (Jointly with H.A. Meineke). University of Cincinnati.

William Rose, 1980, West Virginia University.

David J. Brailer, 1982 - 1983, (Jointly with F.D. Reilly and E.V. Cilento), West Virginia University. Recipient Van Liere Research Award, 1983 (WVU) and Martin Epstein Research Award in student research competition, Symposium on Computer Applications in Medical Care, Baltimore, 1983.

Gary Able, 1983, West Virginia University (Jointly with F.D. Reilly and E.V. Cilento).

Stella Kidwell, 1988, 1989, University of Arizona.

Diane DeBruyn, 1989, University of Arizona.

Other Students:

Carrol J. Hubbard - Advanced biology, special project student from Walnut Hills High School, (Cincinnati) 1971 - 1972.

Patricia A. Reed - special project student from Biology Department, Univ. of Cincinnati, 1972-1973.

Gillian Hubble, - Physiological Sciences laboratory rotation, University of Arizona, Fall semester, 1995.

Leela Raju, Medical student from Marshall University, 2000.

Visiting Scientists and Students (Those who used the "in vivo" microscopic facilities to conduct research projects; does not include a large number of visitors who spend one or two days in the laboratory):

William Redmond, Ph.D., Medical College of Virginia, 1971 (2 weeks).

Luis G. Paulo, M.D., Tulane University, 1972 (6 weeks).

Ronald DeZanger, Leiden University, 1980 (2 weeks).

Renate Urbaschek, M.D., University of Heidelberg, 1980 (2 weeks), 1981 (2 weeks), 1983 (1 week), 1989 (4 weeks), 1990 (2 weeks), 1998 (1 week).

Bernhard Urbaschek, M.D., University of Heidelberg, 1981 (2 weeks),1983 (1 week), 1989 (4 weeks), 1990 (2 weeks), 1998 (1 week).

Volker Burkart, German Cancer Research Center, University of Heidelberg, 1982 (5 weeks).

Ruth Dimlich, Ph.D., University of Cincinnati, 1982 (2 weeks).

Harald F. Teutsch, M.D., Ph.D., Freiberg University (DFG Heisenberg Fellow) (1982 - 1987).

Eddie Wisse, Ph.D., Free University of Brussels, 1984 (2 months).

Krassi Ivancev, M.D., University of Lund, 1986 (1 week); 1987 (3 months); 1988 (1 week). Received Roscoe Miller Award (and invited representation of paper) at meeting of Amer. Roentgen Ray Society, San Francisco, May, 1988. Research paper originally presented Amer. Soc. GI Radiologists, Dr. K. Ivancev first author. Majority of animal research done at UA during his visit for (3) months in 1987.

Eugene V. Cilento, Ph.D., West Virginia University, 1988 (6 months).

Zuxing Kan, M.D., University of Lund, 1990 (2 months).

Makoto Suematsu, M.D., Ph.D., Keio University, 1996 (2 weeks)

Josune Anasagasti, Ph.D., University of the Basque Country, 1996 (2 months)

Kristel DeVogelaere, M.D., Free University of Brussels, 1997 (2 weeks)

Xingyi Zhang, M.D., University of Bern, 1997 (2 weeks)

Beatriz Arteta, Ph.D., University of Tromso, 2000 (2 months)

Karen Sorensen, D.V.M., Ph.D, University of Tromso, 2004 (1 month)

Geoffrey Farrell, M.D., University of Sydney, 2005 (2 weeks)

Narci Teoh, M.D., Ph.D., University of Sydney, 2005 (2 weeks)

Victoria Cogger, University of Sydney, 2006 (1 week)