



Sandra K. Leeper-Woodford, Ph.D.

Associate Professor of Physiology
Department of Basic Medical Sciences
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Education

- 1987: Ph.D. Dartmouth Medical School/Dartmouth College, Hanover, NH
Department of Physiology
Dartmouth Medical School
- M.S. University of Wisconsin, Madison, WI
Major - Physiology, Endocrinology of Reproduction
Minor - Anatomy
- A.B. Ohio University, Athens, Ohio
Major - Zoology
Minor - German

Positions

- Nov 1991-present: Assistant and Associate Professor (with tenure) of Physiology, Mercer University School of Medicine (MUSM), Macon, GA
- 1988-91: Postdoctoral Fellow, Dept. of Medicine
Medical College of Virginia, Richmond, VA

Academic and Research Honors

- 1993-2007: Principle investigator and co-PI on NIH; NASA; NSBRI and American Lung

Association Research Grants

- 1996: Hooding award, MUSM Class of 1996 at June Graduation.
1995: Gender Equity Award from MUSM American Medical Women's Association.
1995: Outstanding Basic Scientist Award from MUSM Class of 1995.
1988-91: NIH Postdoctoral Fellowship
1987: Albert J. Ryan Fellow, Research Award - Dept. of Physiology,
Dartmouth Medical School.
NIH Predoctoral Training Grant Support
Prior to 1987: Phi Beta Kappa-Ohio University
A.B., Summa Cum Laude-Ohio University
Delta Phi Alpha - National German Honorary
Dean's List and Academic Scholarships each semester
Undergraduate and Graduate research and teaching assistantships

Service and Distinctions (National/International)

- 2000: Invited member of National Space Biomedical Research Institute (NSBRI with NASA) Review Panel. Developed specific guidelines, areas and recommendations for Requests for Proposals of new grants for biomedical space research. June-August, Houston, TX.
- 1999-2000: Invited by The Medical Research Committee at The University of Sheffield Medical School to review grant application for the Division of Molecular and Genetic Medicine, December-January, Sheffield, England. Grant title: *Investigation of the effects of glucose deprivation and low pH on gene expression by macrophages: Implications for macrophage-mediated gene therapy.*
- 1999-2000: Invited member of American Lung Association/Georgia Thoracic Society Research Committee Study Sections-American Lung Association Grants Review, April 1999 and 2000.
- 1997-1998: Member of NIH Special Emphasis Physiology Study Sections, Washington D.C.
1997-1999: Ad Hoc Member of NIH Lung Biology and Pathology Study Sections, Washington D.C.
- 1997-present: Invited Journal Reviewer for: American Journal of Physiology- Endocrinology and Metabolism; American Journal of Physiology- Lung Cellular and Molecular Physiology; Pediatric Research; American Journal of Respiratory Cell and Molecular Biology; Life Sciences.
- 1996: Ad Hoc Member of NIH Lung Biology and Pathology Study Section, Washington, D.C., October 16-17.
- 1995-present: Invited Reviewer and Consultant for Medical Physiology/Pathophysiology Textbooks, Lippencott-Williams & Wilkins publishing, Philadelphia, PA.

Extramural Grant Support

Modulation of Pancreatic Endocrine Function in 3-Dimensional Tissue Culture.
Investigator: PI: BW Tobin, Co-PI: SK Leeper-Woodford.
Agency: NIH (RFA, R-15 AREA)

Dates: June 2001 - May 2005

Costs: Total: \$140,619; Direct: \$100,000; Indirect: \$40,619

Nutritional Modulation of Pancreatic Endocrine Function in microgravity.

Investigators: PI: BW Tobin; Co-PI: SK Leeper-Woodford.

Agency: National Space Biomedical Research Institute (NSBRI with NASA)

Dates: 6/2001 - 5/2005

Costs: Total: \$532,573; Direct: \$372,542; Indirect: \$160,031

Amelioration of Type I Diabetes Following Transplantation of Islet Cell Aggregates Produced Utilizing the NASA High Aspect Ratio Vessel. Co-PI with Dr. Tobin; National Aeronautics and Space Administration (NASA); Johnson Space Center, Houston, TX. Initial Application Funded for \$15,500. 1998-2000.

Regulation of Insulin Secretion by Tumor Necrosis Factor Alpha (TNF-) Secreted from Pancreatic Islets of Langerhans in Type 2 Diabetes Mellitus. Collaborator with PI Dr. Tobin; RW Hansen Research Fund. Initial Application Funded for \$5000. 1998-1999.

Influence of Simulated Microgravity on TNF- α Secretion and Glucose Homeostasis in cultured Pancreatic Islets of Langerhans from Wistar Furth Rats. Co-PI with Dr. Tobin; National Aeronautics and Space Administration (NASA); Johnson Space Center, Houston, TX. \$5,000, June to August 1998.

American Lung Association Research Grant, Principal Investigator. *Oxygen tension and lung cell tumor necrosis factor secretion.* \$40,000. 1993-1997.

National Institute of Health-Heart, Lung and Blood Institute, AREA Grant, Principal Investigator. *Alteration of TNF secretion.* \$102, 201, Direct and Indirect Costs. 1994-1999.

American Cancer Society Research Grant for Medical Student Research, Principal Investigator with students, Julie Farrow, Stanley Jones and Kevin Roughen, and Dr. Russ. *TNF and oxygen radical activity in the lung.* \$1500. 1994-1995.

NIH-NIDCD-RO3 Grant, Collaborator with Dr. Adkison, PI. *The role of melanocytes in inner ear development.* \$62,607. 1993-1995.

American Cancer Society Research Grant for Medical Student Research, Co-Principal Investigator with Dr. Young and medical student Edrea Jones. *Effect of tumor necrosis factor- on mesenchymal stem cell differentiation.* \$500. 1993-1994.

Research Experience

- 2008-Jan to Sept. Research Sabbatical at Oregon National Primate Research Center and Oregon Health Sciences University; Portland, OR. Topics- Analyses of Primate Pancreatic Islet Function; Induction and Attenuation of Signal Transduction Pathways in Human Prostate Cancer Cells.
- 1991-present: Mercer University School of Medicine, Dept. of Basic Sciences/Physiology,

Principal Investigator in multiple projects investigating stimulation and mechanisms of production of TNF and other cytokines in lung, blood vessel and pancreatic islet cells and tissue.

1988-1991: Medical College of Virginia, Depts of Medicine, Surgery and Pathology, Postdoctoral Fellow
Topic - Role of Tumor Necrosis Factor in Sepsis-Induced Acute Lung Injury.

1981-87: Dartmouth Medical School, Depts of Physiology and Anatomy, Graduate Student Research
Topic - Effects of Anoxia on Phagocytic Function in Pulmonary Macrophages.

Teaching Experience

1991-present: Mercer University School of Medicine, Assistant and Associate Professor of Medical Physiology/ Resource/Exam Preparation for Pulmonology, Cardiology, Gastroenterology, Renal, Hematology, Cellular Basis of Medicine, Host Defense, Infectious Disease.

Medical School Phase Tutor and Physiology/Pathophysiology Resource for:

1991-present: Pulmonology
1994-2005: Phase Coordinator for Pulmonology.
1992-present: Gastroenterology
1994-present: Cardiology
1995-present: Renal
2005-present: Cellular Basis of Medicine and Developmental Genetics
2003-2007: Musculoskeletal
1993-2005: MUSM Medical School Orientation Tutor.
2005-present: Invited Lecturer and Oral Examiner in Medical Physiology/Pathophysiology of Cardiovascular, Gastroenterology, Pulmonology and Renal for Mercer Medical School Nurse Anesthetist Degree Program.

Oral Examiner for:

1992: Pulmonology, Gastroenterology, Musculoskeletal, Endocrinology, Cardiology, Host Defense.
1993: Renal, Gastroenterology, Pulmonology, Neurology, Host Defense.
1994: Renal, Musculoskeletal, Gastroenterology, Infectious Disease, Pulmonology, Cardiology, Phase B (Human Genetics & Development).
1995: Host Defense, Neurology, Renal, Cardiology, Pulmonology.
1996: Renal, Neurology, Brain & Behavior, Cardiology, Pulmonology.
1997: Renal, Cardiology, Pulmonology, Endocrinology, Host Defense.
1997-2000: Renal, Cardiology, Pulmonology, Gastrointestinal, Host Defense.
2000-2002: Renal, Cardiology, Pulmonology, Endocrinology, Musculoskeletal.
2002-present: Cardiology, Pulmonology, Renal, Gastrointestinal, Musculoskeletal, Hematology, Cellular Basis of Medicine and Developmental Genetics.

Invited Seminars for Clinical Teaching and Research

9th World Congress of the International Pancreas and Islet Transplant Association-- Royal College of Surgeons, Dublin, Ireland, July 11, 2003. Title: Alteration of TNF-Alpha Secretion in Human Pancreatic Islets.

NASA/Johnson Space Center-Houston, TX. July 17, 1998. Title: Tumor Necrosis Factor Activity of Pancreatic Islets: Implications for Sepsis, Obesity, Diabetes and Microgravity.

Medical Center of Central Georgia, Macon, GA. Anesthesia Grand Rounds, May 3, 1994. Title: Tumor Necrosis Factor.

Medical Center of Central Georgia, Macon, GA. Dept. of Surgery, June 8, 1993. Title: Tumor Necrosis Factor and Sepsis-Induced Acute Lung Injury.

Medical Center of Central Georgia, Macon, GA. Dept. of Medicine, April 13, 1993. Title: Tumor Necrosis Factor and Acute Lung Injury.

Medical Center of Central Georgia, Grand Rounds, Dept. of Surgery, Macon, GA, Feb 27, 1992. Title: Tumor Necrosis Factor and Acute Lung Injury in Septic Shock.

Medical Center of Central Georgia, Dept. of Surgery, Jan 21, 1992. Title: The Role of Cytokines in Inflammation.

Medical College of Virginia, Dept. of Anatomy, Richmond, VA, December 4, 1990. Title: The Role of Tumor Necrosis Factor in Acute Lung Injury.

Medical College of Virginia, Dept. of Medicine, Critical Care Grand Rounds, Richmond, VA, November 20, 1990. Title: Tumor Necrosis Factor and Acute Lung Injury.

Medical College of Virginia, Dept. of Pathology, Grand Rounds, Richmond, VA, April 20, 1990. Title: Tumor Necrosis Factor in Acute Lung Injury.

Medical College of Virginia, Dept. of Hematology and Oncology, Richmond, VA, Aug 1987. Title: Anoxia and Alveolar Macrophage Function.

Committees (Faculty- or Society-Elected)

Curriculum and Instruction Committee, 2003-2005.

Student Appraisal and Promotions Committee, 1994-1999; 2001-present.

American Lung Association of Georgia/Georgia Thoracic Society Research Committee, Atlanta, GA, 1995-2001.

Medical Library Committee, 1993-94.

Biomedical Research Committee, 1992-94, Chairman 1994.

Professional Societies

American Thoracic Society
American Physiological Society
American Lung Association of Georgia
American Heart Association,
Cardiopulmonary Critical Care Society.

Manuscripts in Peer-Reviewed Journals

Tobin, B., P. Uchakin, S.K. LEEPER-WOODFORD. Insulin secretion and sensitivity in spaceflight: Diabetogenic effects. Nutrition 18: 842-848, 2002.

Detmer, K. Z. Wang, D. Warejcka, S.K. LEEPER-WOODFORD, W. Newman. Endotoxin stimulated cytokine production in rat vascular smooth muscle cells. Am. J. Physiol: Heart Circ. Physiol. 281: H661-H668, 2001.

Tobin, B, S.K. LEEPER-WOODFORD, B. Hashemi, S. Smith, C. Sams. Altered TNF-alpha, glucose, insulin, and amino acids in islets of Langerhans cultured in a microgravity model system. Am. J

Physiol: Endocrinol Metab. 280: E92-E102, 2001.

LEEPER-WOODFORD, S. K. and K. Detmer. Acute hypoxia increases alveolar macrophage tumor necrosis factor activity and alters NF κ B expression. Am.J. Physiol: Lung Cell.Mol. Physiol. 276: L909-L916, 1999.

Newman, W., L. Zhang, D. Lee, M. Dalton, D. Warejcka, W. Castresana, S. K. LEEPER-WOODFORD. Release of tumor necrosis factor- α from coronary smooth muscle: Activation of NF κ B and inhibition by elevated cyclic AMP. J. Surg. Res. 80:129-135, 1998.

LEEPER-WOODFORD, S. K., D. Carey, K. Byrne, C. Walsh, B. Fisher, H. Sugerman, A. Fowler. Histamine receptor antagonists, cyclooxygenase blockade and tumor necrosis factor during acute septic insult. SHOCK 9:89-94, 1998.

Zhang, L., M. Castesana, I. Shaker, M. Dalton, S. K. LEEPER-WOODFORD, W. Newman. Increased intracellular cyclic AMP inhibits release of tumor necrosis factor alpha from human vascular tissue and cultured smooth muscle cells. Crit. Care Med. 25:1855-1861, 1997.

LEEPER-WOODFORD and B. Tobin. Tumor necrosis factor activity of pancreatic islets. Am. J. Physiol. 273:E433-437, 1997.

Newman, W., L. Zhang, S. K. LEEPER-WOODFORD, J. Johnson, J. Shaker, S. Erceg, M. Castresana. Inhibition of release of tumor necrosis factor- from human vascular tissue and smooth muscle cells by glucocorticoids. Crit. Care Med. 25:519-522, 1997.

Newman, W., L. Zhang, S. K. LEEPER-WOODFORD, M. Castresana. Human blood vessels release tumor necrosis factor-alpha from a smooth muscle cell source. Crit. Care Med. 24:294-297, 1996.

Mullen, P., B. Fisher, C. Walsh, B. Susskind, S. LEEPER-WOODFORD, G. Jesmok, A. Fowler, H. Sugerman. Monoclonal antibody to tumor necrosis factor- attenuates plasma interleukin-6 levels in porcine gram-negative sepsis. J. Surg. Res. 57:625-631, 1994.

Han, J., A. Windsor, D. Drenning, S. K. LEEPER-WOODFORD, P. Mullen, D. Bechard, H. Sugerman, A. Fowler. Release of endothelin in relation to tumor necrosis factor- in *Pseudomonas aeruginosa*-induced septic shock. Shock 1:343-346, 1994.

LEEPER-WOODFORD, S. K., B. Fisher, H. Sugerman, A. Fowler. Pharmacologic reduction in tumor necrosis factor activity of pulmonary alveolar macrophages. Am. J. Resp. Cell Mol. Biol. 8:169-175, 1993.

Windsor, A., C. Walsh, P. Mullen, D. Cook, B. Fisher, C. Blocher, S. LEEPER-WOODFORD, H. Sugerman, A. Fowler. Tumor necrosis factor- blockade prevents neutrophil CD 18 receptor upregulation and attenuates acute lung injury in porcine sepsis without inhibition of neutrophil oxygen radical generation. J. Clin. Invest. 91:1459-1468, 1993.

Mullen, P., A. Windsor, C. Walsh, C. Blocher, B. Fisher, S. LEEPER-WOODFORD, G. Jesmok, A. Fowler, H. Sugerman. Combined ibuprofen and monoclonal antibody to tumor necrosis factor-attenuate hemodynamic dysfunction and sepsis-induced acute lung injury. J. Trauma 34:612-621, 1993.

LEEPER-WOODFORD, S. K. and J. W. Mills. Phagocytosis and ATP levels in alveolar macrophages during acute hypoxia. Am. J. Resp. Cell Mol. Biol. 6:326-334, 1992.

Walsh, C., H. Sugerman, P. Mullen, D. Carey, S. LEEPER-WOODFORD, G. Jesmok, E. Ellis, A. Fowler. Monoclonal antibody to tumor necrosis factor- attenuates cardiopulmonary dysfunction in porcine gram negative sepsis. Arch. Surg. 127:138-146, 1992.

LEEPER-WOODFORD, S. K., D. Carey, K. Byrne, J. Jenkins, B. Fisher, C. Blocher, H. Sugerman, A. Fowler. Tumor necrosis factor: alpha and beta subtypes appear in circulation during onset of sepsis-induced lung injury. Am. Rev. Resp. Dis. 143:1076-1082, 1991.

LEEPER-WOODFORD, S. K., D. Carey, K. Byrne, B. Fisher, C. Blocher, H. Sugerman, A. Fowler. Ibuprofen attenuates plasma tumor necrosis factor activity during sepsis-induced acute lung injury. J. Appl. Physiol. 71:915-923, 1991.

Walsh, C., S. LEEPER-WOODFORD, D. Carey, D. Cook, D. Bechard, A. Fowler, H. Sugerman. CD 18 adhesion receptors, tumor necrosis factor and neutropenia during septic lung injury. *J. Surg. Res.* 50:323-329, 1991.

Fowler, A., P. Carey, C. Walsh, C. Sessler, V. Murmaw, D. Bechard, S. LEEPER-WOODFORD, B. Fisher, C. Blocher, K. Byrne, H. Sugerman. *In-situ* pulmonary vascular perfusion for improved recovery of pulmonary intravascular macrophages. *Microvascular Res.* 41:328-344, 1991.

Carey, P., M.B., S. LEEPER-WOODFORD, C. Walsh, K. Byrne, A. Fowler, and H. Sugerman. Delayed cyclooxygenase blockade reduces the neutrophil respiratory burst and plasma tumor necrosis factor levels in sepsis-induced acute lung injury. *J. Trauma* 31:733-741, 1991.

Selected Abstracts

Tobin, B., R. Walzem, S. Watkins, S.K. LEEPER-WOODFORD, C. Bruin, J. Lakey.

Lipid metabolism in human pancreatic islets of Langerhans. *Transplantation* 76: S65, 2003.

LEEPER-WOODFORD, S.K., C. Bruin, J. Lakey, B. Tobin. Alteration of TNF-alpha secretion in human pancreatic islets. *Transplantation* 76: S66, 2003.

LEEPER-WOODFORD, S.K., P. Uchakin, S. Smith, J. Lakey, B. Tobin. Three dimensional cell culture of human islets is associated with increased TNF-Alpha. *Acta Chir. Austriaca* 33: 65, 2001.

Tobin, B., P. Uchakin, S. Smith, S.K. LEEPER-WOODFORD, M. Rothenberg, J. Lakey.. Enhanced insulin secretion, altered glucose, lactate and amino acids in human islets cultured in three dimensional cell culture. *Acta Chir Austriaca* 33:47, 2001.

LEEPER-WOODFORD, S.K. and K. Detmer.. Acute hypoxia and aspirin alter macrophage tumor necrosis factor and NFkB expression. *Am. J Resp.Crit Care Med.* 5 159: A595, 1999.

LEEPER-WOODFORD, S. and K. Detmer. Acute hypoxia and aspirin alter macrophage tumor necrosis factor and NF- B expression. *Am. J Resp. Crit. Care Med.* 159: A595, 1999.

LEEPER-WOODFORD, S.K., B.W. Tobin, B. Hashemi, C. Sams. Pancreatic islet tumor necrosis factor- (TNF) activity is reduced during exposure to simulated microgravity. *FASEB J.* 13: A405, 1999.

Tobin, B., S. LEEPER-WOODFORD, B. Hashemi, C. Sams. Islet-derived necrosis factor alpha (TNF-) activity reduces insulin secretion in simulated microgravity, *FASEB J.* 13: A749, 1999.

Castresana, M.R, S.K. LEEPER-WOODFORD, D.J. Warejcka, K.M. Detmer, W. H. Newman. Nuclear transcription factor NF- B and the regulation of release of tumor necrosis factor- from rat vascular smooth muscle cells. *Anesthesiology* 89: A668, 1998.

LEEPER-WOODFORD, S.K., R. Russ, B. Tobin, M. Wines. Tumor necrosis factor activity of pancreatic islets from genetically obese Fatty Zucker (FZ) rats. *FASEB J.* 12: A259, 1998.

Newman, W.H., D.J. Warejcka, M.R. Castresana, K.M. Detmer, M.L. Dalton, and S.K. LEEPER-WOODFORD. Activation of the nuclear regulatory factor, NF- B by reactive oxygen intermediates and release of TNF- from cultured vascular smooth muscle cells. *Crit. Care Med.* 26:A34, 1998.

Newman, W.H., D.J. Warejcka, K.M. Detmer, M.L. Dalton, and S.K. LEEPER-WOODFORD. Bacterial lipopolysaccharide (LPS) activates the nuclear regulatory factor, NF- B, and releases tumor necrosis factor - (TNF) in rat vascular smooth muscle cells. *FASEB J* 12:A705, 1998.

LEEPER-WOODFORD, S. K., K. Detmer, W. Newman. Hypoxia or hyperoxia increases alveolar macrophage(AM) tumor necrosis factor (TNF) activity and alters NF B expression. *Am. J. Resp. Crit. Care Med.* 155:A754, 1997.

Wines, M., R. Russ, S. K. LEEPER-WOODFORD. Pulmonary alveolar macrophage distribution and function in obese, diabetic rats. *FASEB J.* 11:A434, 1997.

Newman, W., L. Zhang, S. K. LEEPER-WOODFORD, J. Johnson, J. Shaker, S. Erceg, M. Castresana.

Inhibition of release of tumor necrosis factor alpha (TNF-) from human vascular tissue and smooth muscle cells by steroids. FASEB J. 10:A405, 1996.

LEEPER-WOODFORD, S. K., L. Zhang, M. Castresana, W. Newman. Cyclic AMP enhances toxicity of tumor necrosis factor alpha (TNF-). FASEB J. 10:A407, 1996.

LEEPER-WOODFORD, S. K., K. Wilson, P. Ezell, K. Roughen, J. Farrow, S. Jones, R. Russ. Exposing lungs to nicotine decreases tumor necrosis factor activity of pulmonary alveolar macrophages. FASEB J. 9:A714, 1995.

Jones, E., R. Russ, K. Wilson, P. Ezell, S. K. LEEPER-WOODFORD. Tumor necrosis factor activity of pulmonary alveolar macrophages is increased by exposing lungs to endotoxin or N-0-Nitro-Larginine (L-NNA). FASEB J. 9:A571, 1995.

LEEPER-WOODFORD, S. K. Hypoxia or hyperoxia attenuates alveolar macrophage tumor necrosis factor activity. Am. J. Resp. Crit. Care Med. 151:A483, 1995.

Newman, W., L. Zhang, S. K. LEEPER-WOODFORD, M. Castresana. Human blood vessels release tumor necrosis factor alpha (TNF-). FASEB J. 9:A314, 1995.

LEEPER-WOODFORD, S. K. and B. W. Tobin. Tumor necrosis factor activity of pancreatic islets. FASEB J. 8:A663, 1994.

LEEPER-WOODFORD, S. K. and J. W. Mills. Acute exposure to hypoxia or Ca⁺⁺ ionophore induces release of phagocytosed particles from pulmonary alveolar macrophages. Am. J. Resp. Crit. Care Med. 149:A162, 1994.

Jones, E., S. K. LEEPER-WOODFORD, C. Reagan, H. Young. Tumor necrosis factor- enhances the effects of growth factors on the differentiation response of Swiss-3T3-XP-7, a clonal population of mouse pluripotent mesenchymal stem cells. FASEB J. 8:A16, 1994.

LEEPER-WOODFORD, S., B. Fisher, C. Walsh, P. Mullen, A. Windsor, H. Sugerman, A. Fowler. Tumor necrosis factor activity of alveolar macrophages isolated from septic pigs is altered by intravenous infusion of tumor necrosis factor- antibodies. Am. Rev. Resp. Dis. 147:A667, 1993.

Han, J., P. Mullen, D. Drenning, S. LEEPER-WOODFORD, A. Windsor, H. Sugerman, A. Fowler, D. Bechard. Tumor necrosis factor- exerts counter-regulatory effects on circulating nitric oxide and immunoreactive endothelin in porcine *Pseudomonas aeruginosa* induced septic shock. Am. Rev. Resp. Dis. 147:A201, 1993.

Han, J., S. LEEPER-WOODFORD, D. Drenning, D. Bechard, R. Quigg, J. Salyer, H. Ibrahim, A. Guerraty, A. Fowler, P. Mohanty. Circulating tumor necrosis factor and endothelial-derived relaxing factor in severe heart failure: effects after cardiac transplantation. J. Am. Coll. Cardiology 19:207A, 1992.

Pellicane, J., E. DeMaria, S. LEEPER-WOODFORD, R. Lee, A. Fowler. Tumor necrosis factor antibody (MOABTNF) improves survival following hemorrhagic shock (HS) in awake rats. Circ. Shock 37:54,1992.

LEEPER-WOODFORD, S., D. Carey, B. Fisher, H. Sugerman, A. Fowler. Tumor necrosis factor activity of pulmonary alveolar macrophages is inhibited by ibuprofen. Am. Rev. Resp. Dis. 143:A393, 1991.

LEEPER-WOODFORD, S., D. Carey, K. Byrne, B. Fisher, H. Sugerman, A. Fowler. Combined histamine and cyclooxygenase blockade lowers plasma tumor necrosis factor following onset of bacterial sepsis. Clin.Res. 38:549A, 1990.

LEEPER-WOODFORD, S., D. Carey, K. Byrne, B. Fisher, H. Sugerman, A. Fowler. Ibuprofen alters plasma tumor necrosis factor activity in a sepsis-induced porcine model of acute lung injury. Am. Rev. Resp. Dis. 141:A919, 1990.

Carey, P., J. Jenkins, K. Byrne, S. LEEPER-WOODFORD, H. Sugerman, A. Fowler. Migration of neutrophils into alveolar structures produces an attenuated respiratory burst. Am. Rev. Resp. Dis. 141:A637, 1990.

LEEPER-WOODFORD, S., B. Fisher, J. Jenkins, K. Byrne, D. Carey, H. Sugerman, A. Fowler.

Plasma tumor necrosis (TNF) activity during development of acute lung injury in a porcine model of adult respiratory distress syndrome (ARDS). *Am. Rev. Resp. Dis.* 139:A273, 1989.

LEEPER-WOODFORD, S., B. Fisher, J. Jenkins, K. Byrne, D. Carey, H. Sugerma, A. Fowler. Transitory increases in tumor necrosis factor and with the subsequent appearance of novel tumor necrosis factor-like activity in plasma following onset of bacterial septicemia. *Clin. Res.* 37:25A, 1989.

WOODFORD, S. K. L. and J. W. Mills. Effects of anoxia on phagocytosis and ATP levels in the pulmonary alveolar macrophage (PAM). *Federation Proceedings* 46:990, 1987.

Invited Research Seminars and Conferences (National/International)

9th World Congress of the International Pancreas and Islet Transplant Association, Dublin, Ireland, July 8-11, 2003. Title: TNF-Alpha Secretion in Human Pancreatic Islets.

8th World Congress of the International Pancreas and Islet Transplant Association, Innsbruck, Austria, July 13-15, 2001. Title: Three Dimensional Cell Culture of Human Islets is Associated with Increased TNF-Alpha.

Experimental Biology '97, New Orleans, LA, Poster Discussion on Regulation of Alveolar Inflammation, April 8, 1997. Title: Pulmonary Alveolar Macrophage Distribution and Function in Obese, Diabetic Rats.

American Lung Association / Georgia Pulmonary Research Conference, Atlanta, GA. June 14-15, 1996. Title: Effects of Hypoxia, Hyperoxia and Intracellular Calcium Levels on Phagocytic Function and TNF Secretion in Pulmonary Alveolar Macrophages.

Experimental Biology '94, Anaheim, CA, Minisymposium on Inflammatory Mediators and Tissue Injury, April 27, 1994. Title: Tumor Necrosis Factor Activity of Pancreatic Islets.

Georgia State Univ., Atlanta, GA, Dept. of Biology, November 5, 1993. Title: Tumor Necrosis Factor-Induced Acute Lung Injury.

George Washington Univ Medical School, Washington, D.C., Dept. of Physiology, July 24, 1991. Title: Cytokines and Sepsis-Induced Injury.

Ohio State University College of Medicine, Columbus, OH, May 16, 1991. Title: Tumor Necrosis Factor

American Thoracic Society World Conference on Lung Health, TNF Session, Boston, MA, May 20-24 1990. Title: Ibuprofen Alters Plasma Tumor Necrosis Factor Activity in a Sepsis-Induced Porcine Model of Acute Lung Injury.

Mayo Clinic, Dept. of Pharmacology, Rochester, MN, July 1987. Title: Anoxia and Alveolar Macrophage Function.

McGill University, Montreal, Quebec, Canada, Respiratory Physiology Symposium, April 1987. Title: Effects of Anoxia on Phagocytic Function of the Pulmonary Alveolar Macrophage.

The following Appendix is included below:

Titles of Journals or Professional Books reviewed by request of publishers or journal editors (1999-present).

2006-Present

Feb 2009 Invited by Publisher, Lippencott-Williams & Wilkins to review and edit **Cardiovascular System: An Integrated Approach** by Courneya and Parker.

Jan –March 2008 Invited Reviewer for **Advances in Physiology Education: An Improved Model**

for Simulating Obstructive Lung Disease.

Jan 2006-present-- -Invited Reviewer for manuscripts in journals including Am. J. of Physiology: Endocrinology and Metabolism and Am. J. Physiology:Regulatory, Integrative and Comparative Physiology.

2005

March 2005 Invited by Publisher, Lippencott-Williams & Wilkins to review and edit all of the chapters, text, figures, patient case studies, clinical applications, integrated pathophysiology, content questions, comprehensive examination and organization of sections in the medical textbook, USMLE Step 1, Board Review Series for Physiology by L.S. Costanza. See the following chapters:

Chapter 1; CELL PHYSIOLOGY : I) *Cell Membranes*; II) *Transport Across Cell Membranes*; III) *Osmosis*; IV) *Diffusion Potential, Resting Membrane Potential and Action Potential*; V) *Neuromuscular and Synaptic Transmission*; VI) *Skeletal Muscle*; VII) *Smooth Muscle*; VIII) *Comparison of Skeletal Muscle, Smooth Muscle and Cardiac Muscle*. *Review Test Section.*

Chapter 2; NEUROPHYSIOLOGY: I) *Autonomic Nervous System*; II) *Sensory Systems*; III) *Motor Systems*; IV) *Higher Functions of the Cerebral Cortex*; V) *Blood--Brain Barrier and Cerebrospinal Fluid (CSF)*; VI) *Temperature Regulation*.
Review Test Section.

Chapter 3; CARDIOVASCULAR PHYSIOLOGY: I) *Circuitry of the Cardiovascular System*; II) *Hemodynamics*; III) *Cardiac Electrophysiology*; IV) *Cardiac Muscle and Cardiac Output*; V) *Cardiac Cycle*; VI) *Regulation of Arterial Pressure*; VII) *Microcirculation and Lymph*; VIII) *Special Circulations (Coronary, Cerebral, Muscle, Skin)*; IX) *Integrative Functions of the Cardiovascular System: Gravity, Exercise and Hemorrhage*. *Review Test Section.*

Chapter 4; RESPIRATORY PHYSIOLOGY: I) *Lung Volumes and Capacities*; II) *Mechanics of Breathing*; III) *Gas Exchange-General Information*; IV) *Oxygen Transport*; V) *CO₂ Transport*; VI) *Pulmonary Circulation*; VII) *Ventilation/Perfusion Defects*; VIII) *Control of Breathing*; IX) *Integrated Responses of the Respiratory System*.
Review Test Section.

Chapter 5; RENAL AND ACID-BASE PHYSIOLOGY: I) *Body Fluids*; II) *Renal Clearance, Renal Blood Flow and Glomerular Filtration Rate (GFR)*; III) *Reabsorption and Secretion*; IV) *NaCl Regulation*; V) *K⁺ Regulation*; VI) *Renal Regulation of Urea, Phosphate, Calcium and Magnesium*; VII) *Concentration and Dilution of Urine*; VIII) *Renal Hormones*; IX) *Acid-Base Balance*; X) *Integrative Examples*. *Review Test Section.*

Chapter 6; GASTROINTESTINAL PHYSIOLOGY: I) *Structure and Innervation of the Gastrointestinal Tract*; II) *Regulatory Substances in the Gastrointestinal Tract*; III) *Gastrointestinal Motility*; IV) *Gastrointestinal Secretion*; V) *Digestion and Absorption*. *Review Test Section.*

Chapter 7; ENDOCRINE PHYSIOLOGY: I) Overview of Hormones; II) Cell Mechanisms and Second Messengers III) Pituitary Gland (Hypophysis); IV) Thyroid Gland; V) Adrenal Cortex and Adrenal Medulla; VI) Endocrine Pancreas--Glucagon and Insulin; VII) Calcium Metabolism (Parathyroid Hormone, Vitamin D, Calcitonin); VIII) Sexual Differentiation; IX) Male Reproduction; X) Female Reproduction.

Review Test Section.

Chapter 8: COMPREHENSIVE EXAMINATION SECTION

March 2005. Invited by Journal of Applied Physiology, to review the manuscript, “*Iron (III) complex of diethyltriamine pentacetatic acid decreases cytokines and increases blood pressure but worsens survival in a rat model of E. coli sepsis.*” by Li, et al.

June 2005. Invited by Publisher, Lippencott-Williams & Wilkins to review and edit all of the chapters, text, figures, patient case studies, clinical applications, integrated pathophysiology, content questions, and organization of sections in the medical textbook, Pulmonary Physiology and Pathophysiology: An Integrated, Case-Based Approach. by J. B. West. See the following chapters:

Chapter 1; Normal Physiology: Exercise. Chapter 2; Normal Physiology: Hypoxia. Chapter 3; Chronic Obstructive Pulmonary Disease. Chapter 4; Asthma. Chapter 5; Diffuse Interstitial Pulmonary Fibrosis. Chapter 6; Pulmonary Embolism. Chapter 7; Pulmonary Edema. Chapter 8; Coal Workers’ Pneumoconiosis. Chapter 9; Acute Respiratory Failure. Appendices A, B, C.

2004

March 2003 - June 2004. Invited by Publisher, Lippencott-Williams & Wilkins to review and edit all of the chapters, text, figures, patient case studies, clinical applications, integrated pathophysiology, content questions and organization of sections in a proposed new medical textbook, Concepts in Medical Physiology by Seifter, Sloane and Ratner. See the following chapters:

January 2004. Chapters 30-37; Eight chapters--Ch. 30, The Endocrine Pancreas: Fed and Fasted Metabolic States; Ch. 31, The Thyroid Gland; Ch. 32, Adrenal Function; Ch. 33, Hormonal Regulation of Calcium and Phosphate Metabolism; Ch. 34, The Pituitary; Ch. 35, The Female Reproductive System; Ch. 36, The Male Reproductive System; Ch. 37, Bone Physiology. Total Pages Reviewed= 528.

April 2004. Chapters 27-29; Three chapters--Ch. 27, Nutrition, Digestion and Absorption; Ch. 28, Control of Gastrointestinal Motility and Secretion; Ch. 29, Hepatic Physiology. Total Pages Reviewed= 162.

May 2004. Chapters 9-15; Seven chapters -- Ch. 9, Blood; Ch. 10, Endothelial Function and Hemostasis; Ch. 11, The Lymphatics and Immune System; Ch. 12, The Vasculature; Ch. 13, The Heart as a Pump; Ch. 14, Electrical Activity of the Heart; Ch. 15, Exercise Physiology. Total Pages Reviewed= 321.

June 2004. Chapter Eight ; *The Autonomic Nervous System.*
Total Pages Reviewed = 33.

Grand Total pages of reviewed in Physiology Textbook, Concepts in Medical Physiology by Seifter, Sloane and Ratner = 1868 pp. Total

February 2004. Invited by American Journal of Physiology: Lung Cellular and Molecular Physiology, to review the manuscript, “*Alveolar hypoxia aggravates Lipopolysaccharide-induced lung injury.*” by Vuichard, et al.

May 2004. Invited by American Journal of Physiology; Regulatory, Integrative and Comparative Physiology, to review the manuscript, “*Pregnancy influences the plasma cytokine response to intraperitoneal administration of bacterial endotoxin in rats.*” by Fofie, et al.

June 2004. Invited by American Journal of Physiology: Lung Cellular and Molecular Physiology, to review revised edition of the manuscript, “*Alveolar hypoxia aggravates Lipopolysaccharide-induced lung injury.*” by Vuichard, et al.

September 2004. Invited by American Journal of Physiology: Regulatory, Integrative and Comparative Physiology, to review the manuscript, “*Neutrophil inhibition with L-Selectin-directed MAb improves or worsens survival dependent upon the route but not the severity of infection in a rat sepsis model.*” by Haley, et al.

2003

March 2003 - June 2004. Invited by Publisher, Lippencott-Williams & Wilkins to review and edit all of the chapters, text, figures, patient case studies, clinical applications, integrated pathophysiology, content questions and organization of sections in a proposed new medical textbook, Concepts in Medical Physiology by Seifter, Sloane and Ratner. See the following chapters:

April 2003. Chapters 16-19; 16) *The Mechanics of Breathing*; 17) *Gas Exchange in the Lungs*; 18) *Gas Transport*; 19) *Regulation of Breathing*.
Total Pages Reviewed= 304 pp.

July 2003. Chapters 1-5; 1) *Body Fluid Compartments*; 2) *Membrane Transport*; 3) *Signal Transduction*; 4) *Cell-to-Cell Signaling*; 5) *Homeostasis*.
Total Pages Reviewed= 170.

August 2003. Chapters 20-26; 20) *Renal Circulation and Glomerular Filtration*; 21) *Tubular Transport*; 22) *The Regulation of Blood Pressure and Extracellular Fluid Volume*; 23) *Osmoregulation*; 24) *Regulation of Potassium Balance*; 25) *Acid-Base Homeostasis*; 26) *Micturition*. Total Pages Reviewed= 503.

September 2003. Chapters 6 & 7; 6) *The Neuromuscular Junction and Skeletal Muscle*; 7) *Smooth Muscle*. Total Pages Reviewed= 151.

2002

February 2002. Invited by Life Sciences Journal to review the manuscript, “*Effect of hypoxia on macrophage infection by Leishmania amazonensis.*” by Cohone, et al.

May 2002. Invited by Publisher, Lippencott-Williams & Wilkins to review and edit a pathophysiology website/textbook, Human Systems Explorer, based on an interactive, problem-based website by Michael Parker. Chapters and Section Titles Pending.

2001

August 2001. Invited by Publisher, Lippencott-Williams & Wilkins to review and edit the book Pulmonary Pathophysiology: The Essentials by John B. West. See the following chapters: Chapter 1; Ventilation. Chapter 2; Gas Exchange. Chapter 3; Other Tests. Chapter 4; Obstructive Diseases. Chapter 5; Restrictive Diseases. Chapter 6; Vascular Diseases. Chapter 7; Environmental and Other Diseases. Chapter 8; Respiratory Failure. Chapter 9; Oxygen Therapy. Chapter 10; Mechanical Ventilation; Appendices A, B, C, D, E.

December 2001. Invited by Publisher, Lippencott-Williams & Wilkins to review and edit 3 pulmonary physiology chapters (text and figures) for a proposed, new comprehensive Human Physiology textbook by Seifter, Sloane and Ratner: 1) Mechanics of Breathing; 2) Gas Exchange in the Lungs; 3) Regulation of Breathing.

2000

March 2000- Invited by Am. J. Physiology: Endocrinology and Metabolism.to review the manuscript, “*Prenatal endotoxin exposure results in obesity and leptin and insulin resistance in adult male rats.*”

August 2000- Invited by Publisher, Lippencott-Williams & Wilkins to review Renal Chapters (Renal Clearance, Renal Hemodynamics and Glomerular Function) of the new physiology book by R. Banks and N. Sperelakis- Fundamentals of Human Physiology.

August 2000- Invited by Am. J. Physiology: Endocrinology and Metabolism to review the manuscript, “*Maternal endotoxemia results in obesity and insulin resistance in adult male offspring.*”

October 2000- Invited by Publisher, Lippencott-Williams & Wilkins to review and edit the Renal Chapters (Renal Physiology, Body Fluids and Acid-Base) of the new edition of the physiology book by R. Rhoades and G. Tanner- Medical Physiology.

1999

July 1999-Invited by Am. J. Physiology: Lung Cellular and Molecular Physiology to review the manuscript, “*Role of CC chemokines (MIP-1 β , MCP-1, RANTES) in acute lung injury in rats.*”

August 1999- Invited by Publisher, Lippencott-Williams & Wilkins to review proposed chapters

in a new physiology/pathophysiology book by J.B. West- *Pulmonary Physiology & Pathophysiology: An Integrated Case-Based Approach.* *Normal Physiology: Exercise. Normal Physiology: Hypoxia. Chronic Obstructive Pulmonary Disease.*

December 1999-Invited by Pediatric Research to review the manuscript, “*The Effects of Perinatal Hypoxia on Serum Unbound Free Fatty Acids and Lung Inflammatory Mediators.*”

December 1999- Invited by The Medical Research Committee for University of Sheffield Medical School, Sheffield, England to review grant application for the Division of Molecular and Genetic Medicine. Grant Title: *Investigation of the effects of glucose deprivation and low pH on gene expression by macrophages: implications for macrophage-mediated gene therapy.*