

DEPARTMENT OF MEDICAL PHYSIOLOGY

FACULTY/STAFF ACTIVITIES

1996

Awards and Appointments

The following individuals from the Department of Medical Physiology and Microcirculation Research Institute departed in January 1996 for other institutions:

Chilian WM is Professor of Physiology at the Medical College of Wisconsin, Milwaukee, Wisconsin.

DeFily DV is an assistant staff member in the Center for Anesthesiology Research at The Cleveland Clinic Foundation, Cleveland, Ohio.

Tiefenbacher CP returned to the Department of Cardiology at the University of Heidelberg, Germany to complete her residency.

Weihrauch D is an Assistant Research Scientist in the Department of Physiology at the Medical College of Wisconsin, Milwaukee, Wisconsin.

Carter AB (MPHY) was selected for the Recognition Award for her technical expertise in animal research by the Texas Branch of the American Association for Laboratory Animal Science at its annual meeting in Dallas, May 1996.

Forough MR (MPHY) was appointed to the position of Assistant Professor, Medical Physiology. He arrived on October 1, 1996. He obtained his Ph.D. in genetics from George Washington University in 1992. His research focuses on the cloning and characterization of a cDNA encoding the baboon tissue inhibitor of matrix metalloproteinase-1.

Forough MR (MPHY) was awarded the Scientific Award at the IX International Vascular Biology Meeting in Seattle, Washington, 1996.

D'Angelo G (MPHY), Assistant Research Scientist, Medical Physiology and Microcirculation Research Institute, left the department in November to complete his postdoctoral training at Boston Biomedical Research Institute in the laboratory of Dr. Leonard Adam.

Goodman AH (MPHY) retired as Professor of Medical Physiology effective September 1. He will continue his affiliation with the Microcirculation Research Institute as an Adjunct Professor, directing the manufacture of specialized research equipment designed by departmental faculty and sold upon request to other research institutions.

Ishizaka H (MPHY), Postdoctoral Research Associate, returned to Japan in September to extend his research in the clinical field at the Second Department of Internal Medicine, Hirosaki University. While at Texas A&M University, he worked with Dr. Lih Kuo, focusing his research on atherosclerosis-induced microvascular dysfunction

Meininger GA (MPHY)

- was appointed to the Cardiovascular Regulation Review Committee II, American Heart Association - National, 1996 – 1999.
- appointed Past-President and the Chairman of the Long Range Planning Committee of the Microcirculatory Society, 1996-1997
- member of University Who's Who Selection Committee, October 1996
- member of University Graduate Council Subcommittee on Graduate Faculty Membership, October 1996.
- member of University Professional and Career Development Program Award Selection Committee, December 1996

Mogford JE (MPHY) was selected as a recipient of the Procter & Gamble Professional Opportunity Award by the Cardiovascular Section of the American Physiological Society. Mr. Mogford received a certificate of recognition, a cash award, and a complimentary, one-year society membership during Experimental Biology '96, the society's annual scientific meeting, which was held April 14-17 in Washington, DC.

Muller JM (MPHY) was selected as a recipient of the August Krogh Young Investigator Award. Dr. Muller received a certificate of recognition and cash award during the Microcirculatory Society's annual scientific meeting in Washington, DC April 13-14.

Muller JM (MPHY), Postdoctoral Fellow, left the department in May to complete her postdoctoral training under the guidance of Dr. Elmer Price at the University of Missouri-Columbia. Her research in the laboratories of Drs. Michael Davis and William Chilian centered upon signaling mechanisms involved in endothelial flow-induced vasodilation in coronary arterioles.

Peterson TV (MPHY) was appointed to the University Committee to review System Policy Statement on Academic Freedom, Responsibilities and Tenure, November 1996.

Grants and Contracts

D'Angelo G (MPHY) received a \$90,400 National Institutes of Health National Research Service Award entitled "Calcium Dependence of Myogenic Activity" for the period 03/01/96-02/28/99.

Meininger CJ and **Wu G** (MPHY) received a \$37,500 (\$25,000 w/\$12,500 matching funds from the College of Medicine) Texas A&M University Interdisciplinary Research Initiatives Program grant entitled "Impaired proliferation of endothelial cells of the diabetic BB rat" for the period 05/01/96-04/30/97.

Meininger GA and **Davis GE** received a \$25,000 Texas A&M University Interdisciplinary Research Initiatives Program grant entitled “Role of integrins in vascular responses to tissue injury” for the period 05/01/96-04/30/97.

Zawieja DC received a \$380,771 National Institutes of Health Research Career Award entitled “Mechanisms involved in lymphatic contractile activity” for the period 08/15/96-07/31/01.

Publications

Charng M-J, Kinnunen P, **Hawker JR**, Brand T, and Schneider MD (MPHY) FKBP-12 recognition is dispensable for signal generation by type I TGF β receptors. *J. Biol. Chem.*, 271 (38): 22941-22944, 1996.

D’Angelo G (MPHY) Relationship between intravascular pressure and vascular smooth muscle calcium. *Proc. of the First Texas A&M Univ. Health Science Center Res. Symp.*, Camp Allen, June 1996.

DeFily DV, **Kuo L**, and **Chilian WM** (MPHY) PAF attenuates endothelium-dependent coronary arteriolar vasodilation. *Am. J. of Physiol.* 270 (*Heart and Circ. Physiol.* 39): H2094-H2099, 1996.

Forough MR, Assistant Professor, Medical Physiology, N. Koyama, D. Hasenstab, M. Clowes, S. Nikkari, and A. Clowes, “Overexpression of tissue inhibitor of matrix metalloproteinase-1 inhibits vascular smooth muscle cell functions in vitro and in vivo,” *Circ Res* 79: 812-820, 1996.

Granger HJ, **Ziche M**, et al. (MPHY) Nitric oxide mediates mitogenic effect of VEGF on coronary venular endothelium. *Am. J. of Physiol.* 270 (*Heart and Circ. Physiol.* 39): H411-H415, 1996.

Hill MA, **Davis MJ**, and Zou H (MPHY) Calcium dependence of indolactam-mediated contractions in resistance vessels. *J. of Pharmacol. Exp. Ther.* 276: 867-874, 1996.

Ishizaka H and **Lih Kuo** (MPHY) Acidosis-induced coronary arteriolar dilation is mediated by ATP-sensitive potassium channels in vascular smooth muscle. *Circ. Res.* 78: 50-57, 1996.

Jones CJH, **Kuo L**, **Davis MJ** (MPHY) In vivo and in vitro vasoactive reactions of coronary arteriolar microvessels to nitroglycerin. *Am. J. of Physiol.* 271 (HCP 40): H461-H468, 1996.

Lu J-L, **Schmiege LM, III**, **Kuo L**, and Liao JC (MPHY) Downregulation of endothelial constitutive nitric oxide synthase expression by lipopolysaccharide. *Biochem. and Biophys. Res. Comm.* 225: 1-5, 1996.

McClellan WR, **Hawker JR**, and Schneider MD (MPHY) Myocardial growth factors. *Mol. Biol. of Cardiovasc. Disease* pp. 327 - 378, 1996.

Mogford JE, **Davis GE**, **Platts SH**, and **Meininger GA** (MPHY) Vascular smooth muscle $\alpha_v\beta_3$ integrin mediates arteriolar vasodilation in response to RGD peptides. *Circ. Res.* 79: 821-826, 1996.

Muller JM (MPHY) Integrin signaling transduces flow-dependent vasodilation of coronary arterioles. *Proc. of the First Texas A&M Univ. Health Science Center Res. Symposium*, Camp Allen, June 1996.

Muller JM, Davis MJ, and Chilian WM (MPHY) Coronary arteriolar flow-induced vasodilation signals through tyrosine kinase. *Am. J. of Physiol. 270 (Heart and Circ. Physiol. 39)*: H1878-H1884, 1996.

Muller JM, Davis MJ, and Chilian WM, Integrated regulation of pressure and flow in the coronary microcirculation,” *Cardiovasc. Res.* 32: 668-678, 1996.

Sharma NR and Davis MJ, (MPHY) Modulation of substance P-induced K⁺ current in coronary endothelium. *Endothelium* 4: 189-197, 1996.

Sharma NR, and Davis MJ, (MPHY) Calcium entry activated by store depletion in coronary endothelium is promoted by tyrosine phosphorylation. *Am. J. of Physiol. 270 (Heart and Circ. Physiol. 39)*: H267-H274, 1996.

Wu H, Yuan Y, McCarthy M, and Granger HJ (MPHY) Acidic and basic fibroblast growth factors dilate arterioles of skeletal muscle through a NO-dependent mechanism. *Am. J. of Physiol. 271 (Heart and Circ. Physiol. 40)*: H1087-H1093, 1996.

Zawieja DC (MPHY) Lymphatic microcirculation. *Microcirc.* 3 (2): 241-243, 1996.

Zawieja DC (MPHY) Effect of the non-peptide blocker (\pm) CP 96,345 on the cellular mechanism involved in the response to NK, receptor stimulation in human skin fibroblasts. *Neuropeptides* 30(4): 345-354, 1996.

Zawieja DC, Granger HJ, Goodman AH, Davis MJ, et al. (MPHY) Multiple ionic mechanisms activated by bradykinin in coronary venular endothelial cells. *Endothelium* 4: 29-40, 1996.

Presentations

Bayless KJ (MPHY) A novel procedure for the purification of native osteopontin. Presented at the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996.

D'Angelo G (MPHY) Relationship between intravascular pressure and vascular smooth muscle calcium. Presented at the Microcirculatory Society annual meeting, Washington, DC, April 1996.

Davis MJ (MPHY) Signaling pathways involved in nitric oxide release from endothelium. Presented at the Department of Physiology, University of South Alabama, Mobile, Alabama, October 1996.

Forough MR (MPHY)

- Tissue inhibitor of matrix metalloproteinase-1 (TIMP-1) inhibits intimal hyperplasia in balloon-injured artery. Presented as a slide presentation at the International Vascular Biology Meeting, Seattle, Washington, 1996
- Tissue inhibitor of matrix metalloproteinase-1 (TIMP-1) inhibits intimal hyperplasia in balloon-injured artery. Presented as a poster presentation at the International Vascular Biology Meeting, Seattle, Washington, 1996.

Hawker JR (MPHY) Mechanisms of growth factor signaling in the heart. Presented at the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996.

Hein TW (MPHY)

- Oxidized-LDL Impairs endothelium-dependent nitric oxide-mediated dilation of coronary arterioles. Presented at the Microcirculatory Society annual meeting, Washington, DC, April 1996.
- Oxidized-LDL impairs endothelium-dependent nitric oxide-mediated dilation of coronary arterioles. Presented at the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996.

Hood JD (MPHY) The role of nitric oxide in mediating VEGF-induced mitogenesis in coronary venular endothelial cells. Presented at the Microcirculatory Society annual meeting, Washington, DC, April 1996.

Ishizaka H (MPHY)

- A pertussis toxin-sensitive G-protein mediates coronary arteriolar dilation to acidosis. Presented at the Microcirculatory Society annual meeting, Washington, DC, April 1996
- Pinacidil enhances acidosis- and hyperosmolarity-induced coronary arteriolar dilation. Presented at Experimental Biology '96, Washington, DC, April 1996.
- A pertussis toxin-sensitive G-protein mediates coronary arteriolar dilation to acidosis. Presented at the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996.

Kuo L (MPHY)

- Physiological and pathophysiological studies of coronary microcirculation. Presented at the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996.
- A pertussis toxin-sensitive G-protein mediates coronary arteriolar dilation to acidosis. Presented at the American Heart Annual Meeting, November 1996
- Oxidized low-density lipoprotein impairs nitric oxide-mediated dilation of coronary arterioles. Presented at the American Heart Annual Meeting, November 1996.

Meininger CJ (MPHY)

- A role for steel factor in angiogenesis. Presented at the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996.
- Molecular controls of angiogenesis. Seminar presented to the Department of Gastrointestinal Science at the University of Calgary, Calgary, Alberta, Canada, June 1996.

- Mast cells and angiogenesis. Presented at the Federation of American Societies of Experimental Biology Summer Conference “Physiology and Pathophysiology of the Splanchnic Circulation,” Copper Mountain, Colorado, July 1996.
- Proliferation of endothelial cells from diabetic rats is impaired. Presented at the IXth International Vascular Biology Meeting, in Seattle, Washington, September 4-8, 1996.
- Mast cell - endothelial cell interactions in angiogenesis. Presented at the University of Louisville, Louisville, Kentucky, November 1996.

Meininger GA (MPHY)

- Microvascular smooth muscle and function and its role in control of the microcirculation,” Camp Allen, June 1996.
- Regulation mechanisms within arteriolar smooth muscle. Presented at the Federation of American Societies of Experimental Biology Summer Conference “Physiology and Pathophysiology of the Splanchnic Circulation,” Copper Mountain, Colorado, July 1996.
- Microvascular control by extracellular derived signals acting on integrins. Presented at the Southwest Foundation for Biomedical Research, San Antonio, Texas, November 1996.

Meng F (MPHY)

- Augmentation of endothelium-dependent vasodilation in thermal injury. Presented at the American Burn Association meeting, Opryland, Tennessee, March 1996.
- Nitric oxide-dependent vasodilation is enhanced in thermal injury. Presented at Experimental Biology '96, Washington DC, April 1996.
- Enhanced endothelial regulation of blood flow in skeletal muscle microcirculation during thermal injury. Presented at the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996.
- Nitric oxide-dependent vasodilation is enhanced in thermal injury. Presented at the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996.

Mogford JE (MPHY)

- RGD peptides and collagen fragments mediate vasodilation through vascular smooth muscle $\alpha_v\beta_3$ integrin. Presented at the Microcirculatory Society annual meeting, Washington, DC, April 1996
- Vascular smooth muscle $\alpha_v\beta_3$ integrin mediates vasodilation in response to RGD peptides and collagen fragments. Presented at Experimental Biology '96, Washington, DC, April 1996.
- RGD peptides and collagen fragments mediate vasodilation through vascular smooth muscle $\alpha_v\beta_3$ integrin. Presented at the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996.

Muller JM (MPHY) Integrin signaling transduces flow-dependent vasodilation of coronary arterioles. Presented at the Microcirculatory Society annual meeting, Washington, DC, April 1996.

Peterson TV (MPHY)

- Effects of nitric oxide synthase inhibition on responses of conscious water loaded dogs to saline volume expansion. Presented at Experimental Biology '96, Washington, DC, April 1996.
- Role of nitric oxide in renal control of blood volume in conscious monkeys. Presented at the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996.

Platts SH (MPHY)

- Role of ion channels in integrin-mediated vasodilation of rat skeletal muscle arterioles. Presented at the Microcirculatory Society annual meeting, Washington, DC, April 1996.
- Role of K⁺ channels in integrin-mediated vasodilation of rat skeletal muscle arterioles. Presented at the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996.

Wu HM (MPHY)

- Acidic and basic fibroblast growth factors dilate arterioles of skeletal muscle through a nitric oxide-dependent mechanism. Presented at the Microcirculatory Society annual meeting, Washington, DC, April 1996.
- Acidic and basic fibroblast growth factors dilate arterioles of skeletal muscle through a nitric oxide-dependent mechanism. Presented at the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996.

Wu X (MPHY)

- Coronary arteriolar dilation to KCl is mediated by an inwardly rectifying K⁺ channel in smooth muscle. Presented at the Microcirculatory Society annual meeting, Washington, DC, April 1996.
- Integrin-mediated dilation of arterioles in skeletal muscle may involve inhibition of L-type Ca²⁺ channels. Presented at Experimental Biology '96, Washington, DC, April 1996.
- Integrin-mediated dilation of arterioles in skeletal muscle may involve inhibition of L-type Ca²⁺ channels. Presented at the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996.

Zawieja DC (MPHY)

- Intracellular calcium in isolated rat lymphatics. Poster presentation at the Microcirculatory Society annual meeting, Washington, DC, April 1996.
- Lymphatic microcirculation. Invited speaker, President's Symposium at the Microcirculatory Society annual meeting, Washington, DC, April 1996.

- Intracellular calcium in isolated rat lymphatics. Presented at the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996
- Calcium kinetics in the lymphatic pump. Presented at the Federation of American Societies of Experimental Biology Summer Conference “Physiology and Pathophysiology of the Splanchnic Circulation,” Copper Mountain, Colorado, July 1996.
- New imaging methods applied to the intestinal circulation. Presented at the Federation of American Societies of Experimental Biology Summer Conference “Physiology and Pathophysiology of the Splanchnic Circulation,” Copper Mountain, Colorado, July 1996.
- Propagation and coordination of lymphatic contractile activity. Presented at the 1996 annual fall meeting of the Biomedical Engineering Society, State College, Pennsylvania, October 1996.

Zhang W (MPHY) Impaired Proliferation of Endothelial Cells (EC) from Diabetic BB Rats. Presented at Experimental Biology '96, Washington, DC, April 1996.

Honors and Professional Activities

Chang C-I (MPHY) attended the International Conference on Nitric Oxide in Los Angeles, California, July 1996.

D'Angelo G (MPHY) traveled to Boston Biomedical Research Institute, Boston, MA to consult with faculty concerning common research interests, May 1996.

Granger HJ (MPHY) co-chaired a symposium at the Sixth World Congress for Microcirculation in Munich, Germany, then traveled to Rome, Italy to meet with representatives of the University of Vergata and Menarini Research regarding research projects and to Florence, Italy to meet with personnel at the University of Florence regarding on-going collaborative research, August/September 1996.

Kossmann ER (MPHY) attended the Federation of American Societies of Experimental Biology Summer Conference “Physiology and Pathophysiology of the Splanchnic Circulation” in Copper Mountain, Colorado, July 1996.

Kuo L (MPHY) made a trip to NIH for reviewing grants as a member of the Experimental Cardiovascular Sciences Study Section, November 1996.

Meininger CJ (MPHY) reviewed grants as a member of the Lung and Development Study Section of the American Heart Association in Dallas, Texas, October 1996.

Meininger GA

- acted as Chair of the First Texas A&M University Health Science Center Research Symposium, Camp Allen, June 1996.
- co-chaired a session entitled “Network Integration” at the Sixth World Congress for Microcirculation in Munich, Germany, August 1996.
- was selected as a member of the University Who’s Who Selection Committee, October 1996.

- was selected as a member of the University Graduate Council Subcommittee on Graduate Faculty Membership, October 1996.
- was selected as a member of the University Professional and Career Development Program Award Selection Committee, December 1996.

Schmiege LM, III (MPHY) attended the International Conference on Nitric Oxide in Los Angeles, California, July 1996.

Wu X (MPHY) traveled to Baltimore, Maryland to attend the Biophysical Society's annual meeting, February 1996.

Zawieja DC (MPHY)

- traveled to Austin, Texas to participate as a member of the Central Research Review Committee in the annual grant review meeting for the American Heart Association, Texas Affiliate, April 1996.
- was invited to speak on the lymphatic microcirculation during the President's Symposium at the annual Microcirculatory Society meeting in Washington, DC.