CURRICULUM VITAE

George E. Davis

Date & Place of Birth:	August 10, 1957 Baltimore, Maryland
Citizenship:	United States
Familial:	Married 1979 Four children- 1981 (son), 1987 (son), 1994 (son), 1996 (daughter)
Extracurricular Activity:	Professional baseball player (1975-76) San Francisco Giants organization
Education:	1979- B.S. Microbiology, Arizona State University 1986- M.D. University of California, San Diego 1986- Ph.D. University of California, San Diego
Employment:	1986-1989, Medical Staff Fellow (Residency in Anatomic Pathology), Laboratory of Pathology, National Institutes of Health
	1989-1991, Assistant Staff Scientist, La Jolla Cancer Research Foundation
	Sept. 1991-1997, Assistant Professor, Department of Pathology, Texas A&M University College of Medicine
	Sept. 1997-2001, Associate Professor, Department of Pathology, Texas A&M University College of Medicine
	Sept. 2001-June 2006, Professor, Department of Pathology, Texas A&M University System Health Science Center
	Sept. 2003- May 2005, Interim Head, Department of Pathology, Texas A&M University System Health Science Center
	July 2006- June 2018, Professor, Department of Medical Pharmacology and Physiology, School of Medicine, University of Missouri-Columbia

June 2018-present, Professor, Department of Molecular Pharmacology and Physiology, Morsani College of Medicine, University of South Florida

Honors and Awards:

E. Blois Du Bois Academic Scholarship (1977-1979)
B.S. Summa Cum Laude (1979)
Honors Program (Arizona State University)
Phi Beta Kappa Honor Society (1979)
Phi Kappa Phi Honor Society (1979)
Medical Scientist Training Program (1982-1986)
Diplomate, American Board of Pathology (1993)
Margaret Proctor Mulligan Professor of Medical Research (2008-2018)
Outstanding Faculty Research Award (2021)

Medical Licensure/ Specialty Board Certification

State of Texas (# J4765)

Board Certification in Anatomic Pathology (# 93-540)

Research Directions:

2010-Present	Molecular mechanisms controlling tumor angiogenesis
2004-present	Molecular control of tumor cell migration and invasion
2003-present	Role of CMG-2 as an anthrax toxin receptor
2001-present	Molecular control of capillary tube regression mechanisms
1996-2002	Molecular characterization of the extracellular matrix protein, osteopontin and identification of cryptic sites in matrix proteins
1996-present	Characterization of novel capillary morphogenesis genes
1993-present	Molecular basis of angiogenesis including determining how endothelial cells form lumens and tubular networksin 3D matrices.
1992-present	Role of integrins in the tissue response to injury
1989-present	Role of integrins in leukocyte and tumor cell invasion.

1988-1994	Use of HL-60 promyelocytic leukemia cells as a model for the development of cell-substrate adhesive and invasive behavior.
1982-1986	Characterization of substratum-binding proteins which promote neuronal regeneration *in vitro*. Drs. Silvio Varon and Marston Manthorpe
1982	Influence of the π-initiation protein on plasmid R6K DNA replication. Dr. Donald Helinski
1980	Infection of neuronal cultures with herpes simplex virus. Drs. Michael Oxman and Silvio Varon
1978-1979	Characterization of a lysogenic, non-inducible bacteriophage of E. coli K-12. Dr. Edward Birge

Teaching

2020	MPP Graduate Course "Basic Medical Pharmacology" (GMS6505)- three 80 min lectures, Anti-coagulants and Cancer Chemotherapy I, II.
2019-present	USF Graduate Course "Foundations of Biomedical Science" (GMS6001)- two 2 hr lectures
2019	MPP Graduate Course "Cardiovascular Regulation" (GMS6410)- two 2 hr lectures
2015-2018	M2 Medical Student Pathology Curriculum, *Cardiovascular Pathology Lab, 90 minute lecture*; *Hemodynamics Pathology Lab, 90 minute Lecture; Hemodynamic Pathology lecture, 50 minute Lecture*; *Gross Cardiovascular Pathology Lab, 90 minutes presenting to all M2 student lab groups in a rotating fashion*
2009-2010	Course Director, MPP Journal Club Course
2006-2018	Graduate lectures in *MPP Research Skills course*, Cell signaling course and Microcirculation course
2010-2018	*M2 Medical Student PBL Curriculum Block 5 Mentor (Pathophysiology block)*
2008-2010	Medical Student PBL Curriculum Block 3 Mentor (Neurology block)
Sept 2004	*Distinguished Teaching Award for the College of Medicine*
May 2004	Received Best lecturer award from Class of 2006 for my lectures on Basic Pathogenesis of Disease

2002-2003	Course coordinator of redesigned Basic Pathology course from 2002-2003. Was responsible for this redesign and increasing the content of molecular basis of disease lectures and introduction of "Frontiers of Medicine" lectures. I lectured on Inflammation I-III, Chemokines, Thrombosis, Hemodynamic disorders, Atherosclerosis, Cancer I-II, Multistage carcinogenesis models, Novel Cancer therapeutics, and Molecular regulation of hematopoiesis. Also, completely redesigned the Laboratories for this block and taught in 6 two hour laboratories.
1999-present	Provide one hour Histology Hematopoietic system clinical correlation.
1991-2002	Lectures in Medical Pathology (2nd year medical curriculum) Inflammation I-IV, Adhesion Molecules, Bone marrow development, Gastrointestinal Pathology (Esophagus, Stomach, Small Intestine, Inflammatory Bowel Disease, Large Intestine), Bone neoplasms, Joints (13 total hr of lecture/ year) Laboratories in Medical Pathology (2nd year medical curriculum) 30-33 hr per year of student teaching. Also responsible for selection of laboratory research papers for the course. Occasionally present histopathology of slide material to the medical class.
1996	Developed a new graduate course in Pathology - "Pathogenesis of Human Disease", Responsible for course design and gave eight 1.5 hr lectures (12 total hr of lecture in fall of 1996). Lectures were Basic histopathology, Inflammation I-II, Thrombosis, Wound healing and repair, Immunologic responses/ Autoimmune diseases, Neural regeneration, Arthritis.
1997-1998	Lectures in "Pathogenesis of Human Disease", three 1.5 hr lectures in Basic histopathology, Inflammation I-II.
1992-8	Lectures in Basic Medical Sciences Course (1st year graduate student curriculum) 6 hr of teaching per year. Lectures on Cell junctions, Extracellular matrix, Integrins, Cell-cell adhesion molecules
1985 Winter	Teaching Assistant, Laboratory in Microbiology
1984 Fall	Teaching Assistant, Mammalian Physiology

Postdoctoral Research Fellows Sponsored

Kayla J. Bayless, Ph.D. (was an NIH funded postdoctoral fellow; Associate Professor at Texas A&M)
Suhasini Kanagala, Ph.D.
Anil Mavila, Ph.D.
Gail Martin, Ph.D.
Andreia Pop, M.D.

W. Brian Saunders, D.V.M, Ph.D; Associate Professor at Texas A&M Veterinary School
Kamakshi Sachidanandam, Ph.D.
Dae Joong Kim, Ph.D.
Angela Meng, M.D., Ph.D.
Amber Stratman, Ph.D. (now an Assistant Professor, Washington Univ. School of Medicine)
Anastasia Sacharidou, Ph.D.
Stephanie Kidder Bowers, Ph.D.

Member on Graduate Student Thesis Committees

Jody Spence, M.S. in Health Physics
Scottie Walker, M.S. in Health Physics
Jeffery Bowen, Ph.D. in Veterinary Anatomy and Physiology
Jon Mogford, Ph.D. student in Medical Physiology
Steven Platts, Ph.D. student in Medical Physiology
John Hood, Ph.D. student in Medical Physiology
Larry Cooke, Ph.D. student in Medical Physiology
Wei Zhang, Ph.D. student in Medical Physiology
Behyar Zoghi, Ph.D. student in Medical Pathology
Vanessa Nelson, Ph.D. student in Medical Pathology
Kelli Waitkus, Ph.D. student in Medical Physiology
Travis Holton, Ph.D. student in Medical Physiology
Geoffrey Horn, M.S. student in Medical Biochemistry
Holly Cargill, Ph.D. student in Medical Biochemistry
Scott Dindot, Ph.D. student in Genetics
Jihong Xu, Master's student in Medical Biochemistry
George Miles, M.D., Ph.D. student in Medical Biochemistry
Daniel Santillano, M.D., Ph.D. student in Medical Anatomy
Jess Neiger, M.D., Ph.D. student in Medical Physiology
Tracy Prock, M.D., Ph.D. student in Medical Anatomy
Heather Briggs, M.D., Ph.D. student in Medical Microbiology
Marisa Pulido, Ph.D. student in Medical Pharmacology
Jason Etheredge, M.D., Ph.D. student in Medical Pharmacology
Jennifer Sutherland, M.D., Ph.D. student in Medical Biochemistry
Mark Palmier, Ph.D. student in Biochemistry, University of Missouri
Tara Marcink, Ph.D. student in Biochemistry, University of Missouri
Drishya Iyer, Ph.D. student in Molecular Pharmacology and Physiology, USF
Yanan Zhu, Ph.D. student in Molecular Pharmacology and Physiology, USF
Andrea Arica, M.S. student in Molecular Medicine, USF
Richa Banerjee, Ph.D. student in Molecular Pharmacology and Physiology, USF
Salma Abdelmaboud, Ph.D. student in Molecular Pharmacology and Physiology, USF

Outside Reviewer for Graduate Student Thesis

Marjut Nätynki, Ph.D. student, University of Ohlu, Ohlu, Finland

Chair of Graduate Thesis Committee

Rene Salazar, Ph.D. student in Medical Pathology
Scott Bell, Ph.D. student in Medical Pathology
Brian Saunders, D.V.M., Ph.D. student in Medical Pathology (now Associate Professor at Texas A&M University Veterinary School)
Amanda Fuller, M.S. student in Medical Pathology
Kevin Fisher, M.D., Ph.D. student in Medical Pharmacology and Physiology (now Assistant Professor, Baylor School of Medicine)
Wonshill Koh, M.D., Ph.D. student in Medical Pharmacology and Physiology (now Assistant Professor, University of Cincinnati School of Medicine)
Anastasia Sacharidou, Ph.D. student in Medical Pharmacology and Physiology
Amber Stratman, Ph.D. student in Medical Pharmacology and Physiology (Awarded an AHA Predoctoral Fellowship) (now Assistant Professor at Washington University School of Medicine)
Amy Schwindt, M.S. student in Medical Pharmacology and Physiology (Awarded an AHA Predoctoral Fellowship)
Katherine Speichinger, a former Ph.D. student in Medical Pharmacology and Physiology (Received a fundable score on an AHA Predoctoral Fellowship)
Pieter Norden, Ph.D. student in Genetics, Life Sciences Scholar (currently a post-doctoral fellow at Northwestern University School of Medicine)
Scott Kemp, Ph.D. student in Molecular Pharmacology and Physiology, USF
Prisca Lin, Ph.D. student in Molecular Pharmacology and Physiology, USF
Zheying Sun, Ph.D. student in Molecular Pharmacology and Physiology, USF
Maria Castano, Ph.D. student in Molecular Pharmacology and Physiology, USF
Ksenia Yrigoin, Ph.D. student in Molecular Pharmacology and Physiology, USF

Co-Chair of Graduate Thesis Committee

Kayla Bayless, Ph.D. student in Medical Physiology (now Associate Professor, Texas A&M College of Medicine

Sponsored Missouri NIH PhD Prep Program

Jocelynda Salvador, now a PhD student at Northwestern School of Medicine

Sponsored Undergraduate Research Projects

Stacey Black
Vanessa Grimmett
Brian Badgwell
Ann Machinsky
Stephen Madden (Ph.D. student at UT Southwestern Medical Center)
Jimmy Paviliska
Thomas Stiles
Kristel Polder (HHMI intern) (medical school at UT Houston Med. Center)
J.R. Crochet (HHMI intern)
Rira Jun (medical student at Texas A&M)
Audrey Moore (medical student at UT Houston Med. Center)
Amber Chen (medical student at UT Southwestern)
Kevin Wilson (MD/PhD student at Texas Tech School of Medicine)

Cory Morgan
Nick Anthis *(a Goldwater scholar and Honor's student at Texas A&M; Winner of Texas A&M Best Senior Honor's thesis award, Named a Rhodes Scholar; postdoctoral fellow at NIH)*
Julie Robertson (Ph.D. student at UT Houston Medical School)
Katherine Schultz (Ph.D. student at UT Houston Medical School)
Aaron Mobley (Ph.D. student at UT Houston Medical School)
Diliana Stoimenova (MU McNair Scholar awardee, medical student at Creighton University)
Kathryn Simmons (Nursing student at University of Missouri)
Gabrielle Johnson (MU Express Program)
Danielle Meyer (MU Biology Honor's Student)
Gretchen Koller (MU Biology Student)

Sponsored Medical Student Research Projects

Lisa Lopez M.D. (Pathology Faculty Member at Scott&White)
Tracy Goen M.D.
Jeffrey Waguespack M.D. (Family Practice Faculty Member at Scott&White)
Scott Thomas M.D. (Associate Professor of Surgery, Scott&White
Brian Badgwell M.D.
JoVan Currie M.D.
Craig Dunseth M.D.

Sponsored Ph.D., M.D., Ph.D. or M.S. Graduate Student Laboratory Rotations

Behyar Zoghi, Ph.D. student in Medical Pathology
Rene Salazar, Ph.D. student in Medical Pathology
Scott Bell, Ph.D. student in Medical Biochemistry (transferred to Medical Pathology)
Elena Martin-Melchor, Ph.D. student in Medical Pathology
Vanessa Nelson, Ph.D. student in Medical Pathology
Russell Ward, M.D., Ph.D. student
Kevin Fisher, M.D., Ph.D. student
Wonshill Koh, M.D., Ph.D. student
Brianna Tuhlei, M.D., Ph.D. student
Prisca Lin, Ph.D. student, USF
Zheying Sun, Ph.D. student, USF
Niat Gebru, Ph.D. student, USF
Maria Castano, Ph.D. student, USF
Andrea Arica, M.S. student, USF
Ksenia Yrigoin, Ph.D. student, USF
Salma Abdelmaboud, Ph.D. student, USF

Committees/ Administrative responsibilities

1991-6	Graduate Instruction Committee
1991-6	Graduate Advisor, Department of Medical Pathology

1993- 2003	M.D., Ph.D. Student selection committee (with Dr. Gerald Frye)- responsible for interviewing applicants and attending medical school admission committee meetings to discuss applicants.
1993	Developed M.D., Ph.D. Program with Dr. Gerald Meininger
1994	Subcommittee of Graduate Instruction Committee (with Dr. Michael Davis) to work on policies related to M.D., Ph.D. program.
1993	Committee on Academic Integrity
1993-4	Strategic Planning Task Force
1995	Biochemistry Chair Search Committee
1996	Dean's Search Committee
1994,6	Mayborn Chair of Cardiovascular Sciences Search Committee
1996-8	Faculty Advisory Committee
1997-8	Chair, Faculty Advisory Committee
1997-1998	Dean's Committee on Curriculum
1997-1998	Research Advisory Council
1998	Health Science Center Task Force- Faculty Governance
1998	Health Science Center Task Force- Research Policies
1998- 2004	Director, M.D., Ph.D. program
1998-2000	Curriculum Steering Committee
2002-2003	Curriculum Committee
2000-2004	Graduate Instruction Committee
Sept. 2003- May 2005	Interim Department Head, Department of Pathology and Laboratory Medicine
Sept. 2005- June 2006	Tenure and Promotions Committee
July 2006- May 2009	Research Council
2007-2018	MD/PhD Executive Committee
2007-2018	Med. Pharm. Phys. Seminar Committee
2008-2011	Tenure and Promotions Committee
2009-2010	Chair, Tenure and Promotions Committee
2013-2015	Tenure and Promotions Committee, Department of Pathology and Anatomical Sciences
2014-2018	College of Medicine Research Space Committee
2019-present	USF Health Heart Institute Advisory Committee
2019	Faculty Recruitment Committee, Department of Pathology and Cell Biology, USF Health

2019-present	Tenure and Promotions Committee, Department of Molecular Pharmacology and Physiology
2020-present	College of Medicine Committee on Research (COMCOR), USF Health
2020-present	College of Medicine, Tenure and Promotions Committee, USF Health

Invited Lectures/ Presentations

2019	(December) Neuroscience Seminar Series, University of South Florida, Tampa, FL
2019	(April) Cardiovascular Quarterly Colloquium, University of South Florida, Tampa, FL
2018	(October) Stroke/Cardiovascular Symposium, University of South Florida, Tampa, FL
2018	(August) University of Texas, San Antonio, San Antonio, TX
2018	(May) University of South Florida School of Medicine, Tampa, FL
2017	(October) Developmental Vascular Biology Workshop VII- NAVBO Trainee Pre-Conference, Invited Keynote Speaker
2017	(September) Oklahoma Medical Research Foundation, Oklahoma City, OK
2017	(May) Keystone Symposium on Angiogenesis and Vascular Disease, Sante Fe, NM, Invited Speaker
2015	(March) ASBMB meeting, Boston, MA, Invited Speaker
2014	(October) Department of Pathology and Anatomical Sciences, University of Missouri School of Medicine, Columbia, MO
2014	(October) Developmental Vascular Biology Workshop VI- Navbo Conference, Monterey, CA, Invited Speaker
2014	(September) Keynote Speaker, Missouri/Iowa American Physiologic Society Meeting, Kansas City, MO
2014	(April) Department of Biological Sciences, University of Missouri, Columbia, MO
2013	(October) Seminar in Translational Neuroscience, University of Missouri School of Medicine, Columbia, MO

2013	(September) Department of Cellular and Molecular Medicine, Texas A&M University College of Medicine, College Station, TX
2013	(August) Angiogenesis Minisymposium, University of Washington School of Medicine, Seattle, WA, Invited Keynote Speaker
2013	(April) Section of Cardiovascular Medicine Seminar, Yale University School of Medicine, New Haven, CT
2013	(February) Cardiovascular Research Day, University of Missouri, Invited Speaker
2012	(October) Developmental Vascular Biology Workshop V- Navbo Conference, Monterey, CA, Invited Speaker
2012	(August) 5th Mayo Clinic Angiogenesis Conference, Minneapolis, MN, Invited Speaker
2012	(July) Signal Transduction by Engineered Extracellular Matrices-Gordon Conference, Biddeford, ME, Invited Speaker
2012	(June) International Vascular Biology Meeting 2012, Wiesbaden, Germany, Invited Speaker
2012	(April) UCLA Vascular Biology Seminar Series, Los Angeles, CA
2012	(March) Program in Genomics of Differentiation Seminar Series, National Institutes of Health, Bethesda, MD
2012	(March) Harvard Medical School Vascular Biology Seminar Series, Boston, MA
2011	(September) Mechanisms of Organ Repair and Regeneration, Ellicott City, MD, Invited Speaker
2011	(January) Keystone Symposium on Extracellular Matrix and Cardiovascular Remodeling, Tahoe City, CA, Invited Speaker
2010	(October) National Institutes of Health, 2010 Angiogenesis Course, Invited Speaker
2010	(October) Department of Pathology, University of North Carolina School of Medicine
2010	(March) Center for Vascular Biology Research, Beth Israel Deaconess Medical Center, Harvard Medical School

2010	(February) Developmental Vascular Biology Workshop IV, Invited speaker, Monterey, CA
2010	(January) Department of Pathology and Anatomical Sciences, University of Missouri School of Medicine
2009	(December) National Institutes of Health, 2009 Angiogenesis Course, Invited Speaker
2009	(August) Matrix Metalloproteinases Gordon Conference, Les Diablerets, Switzerland, Invited Speaker
2009	(March) Vascular Matrix Biology and Bioengineering Workshop, Whistler, British Columbia, Canada, Invited Speaker
2009	(March) Vascular Biology Gordon Conference, Ventura, CA Invited Speaker
2009	(March) Department of Pathology, University of Pittsburgh School of Medicine
2008	(December) Matrix Biology Meeting, San Diego, CA, Invited speaker
2008	(November) Department of Cell Biology, Memorial Sloan-Kettering
2008	(November) Department of Genetics and Development, Iowa State University
2008	(October) Molecular and Cellular Biology Department, Roswell Park Cancer Institute
2008	(September) Biology of Cardiovascular Signaling, NAVBO Workshop, Cape Cod, MA, Invited Speaker
2008	(September) 5th International Kloster Seeon Meeting, "Angiogenesis-Molecular Mechanisms and Functional Interactions, Kloster Seeon, Germany, Invited Speaker
2008	(May) Tanenbaum Symposium, University of Toronto, Toronto, Canada, "Angiogenesis and Vascular Remodeling in Development and Disease Symposium" Invited Speaker
2008	(June) Department of Cell Biology, Cornell University School of Medicine
2008	(April) Department of Pathology, Yale University School of Medicine
2008	(March) Department of Pathology, University of Kansas School of Medicine

2008 (April) Experimental Biology 2008, American Association of Anatomists, Invited Speaker, Session on Engineering the Microvasculature, "Control of microvascular tube assembly by endothelial cell-pericyte interactions"

2008 (January) Developmental Vascular Biology Workshop III, Monterey, CA, Invited speaker, Session on Matrix and Morphogenesis, "Cdc42 and MT1-MMP-dependent signaling control EC lumen formation"

2008 (January) Keystone Symposium on Mechanisms of Angiogenesis in Development and Disease, Vancouver, British Columbia, Invited Speaker, "Molecular control of endothelial lumen formation", Also session chair for Workshop 1: "Experimental Models of Angiogenesis"

2007 Cardiovascular Research Center, University of North Carolina School of Medicine, "Molecular control of endothelial cell tube assembly and disassembly in three-dimensional extracellular matrices"

2007 Department of Pathology, Columbia University School of Medicine, "Molecular control of endothelial cell lumen formation and tube assembly in three-dimensional extracellular matrices"

2007 Angiogenesis and Microcirculation Gordon Conference, Newport, RI, Invited speaker, "Cdc42, MT1-MMP and vascular guidance tunnels in EC lumenogenesis"

2007 8th World Congress on Microcirculation, Milwaukee, WI, Invited speaker, "Molecular control of EC lumen formation in 3D extracellular matrices"

2007 Matrix Metalloproteinases Gordon Conference, Il Ciocco, Italy, Invited Speaker, "Matrix metalloproteinases in vessel formation versus regression"

2007 Department of Pharmacology, University of Illinois, Chicago, IL, "Molecular control of capillary tube formation versus regression by matrix metalloproteinases and pericytes"

2007 Vascular Biology Gordon Conference, Ventura, CA, Invited speaker, "ECM and vascular morphogenesis" and discussion leader in session on Endothelial lumen formation.

2006 American Society of Matrix Biology meeting, Invited speaker and Co-chair of session on "Regulation of capillary morphogenesis by extracellular matrix"; Invited speaker- "Coregulation of endothelial cell lumen formation by integrins and MT1-MMP-dependent proteolysis in 3D collagen matrices"

2006 Department of Medicine, Cardiovascular Research Seminar, Washington University School of Medicine, St. Louis, MO, "Molecular balance of capillary tube formation versus regression by matrix metalloproteinases, TIMPs and 3D extracellular matrices"

2006 Department of Anatomy, University of Kansas Medical Center, Kansas City, KS, “Molecular balance of capillary tube formation versus regression in 3D collagen matrices: Influence of matrix metalloproteinases and pericytes”

2006 Department of Molecular Biology and Biochemistry, UC Irvine, Irvine, CA, “Regulation of a molecular balance of capillary tube formation versus regression by matrix metalloproteinases and Rho GTPases”

2006 Grover Conference on the Pulmonary Circulation : Rho Family GTPases in Pulmonary Vascular Pathophysiology, Sedalia, CO, Invited speaker- “Rho GTPases and endothelial lumen formation”.

2006 Department of Biochemistry and Molecular Biology, Rice University, Houston, TX, “Molecular control of blood vessel formation and stabilization in 3D extracellular matrices”

2006 Institute for Pure and Applied Mathematics (IPAM) meeting on Angiogenesis, UCLA, Los Angeles, CA, Invited speaker, “Endothelial cell tube formation and stabilization in 3D matrices”

2006 Developmental Vascular Biology Workshop II, Monterey, CA, Invited speaker, “Molecular control of capillary lumen formation in 3D collagen matrices involves coordinate regulation of integrin $\alpha 2\beta 1$, Cdc42 and MT1-MMP”

2005 Department of Molecular Physiology and Biophysics, Baylor College of Medicine, Houston, TX “Endothelial cell-pericyte interactions regulate a molecular balance of capillary tube morphogenesis versus regression through matrix metalloproteinases”

2005 American Heart Association, National Meeting, Dallas, TX, Invited speaker- Cardiovascular Seminar Session Title: *Vascular patterning and development* “Mechanisms of lumen formation”

2005 Montagna Symposium on Wound Repair, Portland, OR, Invited speaker “MMPs and TIMPs in endothelial cell morphogenesis”

2005 Department of Chemistry, Baylor University, Waco, TX “Human capillary tube assembly versus disassembly in 3D extracellular matrix environments”

2005 Department of Biomedical Engineering, Texas A&M University, “Microvascular engineering of capillary tube networks in three-dimensional extracellular matrices”

2005 Symposium on Proteolysis in Vascular Biology and Neoplasia, EB 2005, San Diego, CA, "Matrix metalloproteinase-1 and -10 control capillary tube

regression and the pericyte-derived proteinase inhibitor, TIMP-3, blocks these events to stabilize capillary tubes"

2005 Vascular Biology Gordon Conference, Ventura, CA, "Matrix metalloproteinases in EC lumen formation and tube stabilization"

2004 Medical University of South Carolina, Angiogenesis Minisymposium, "Molecular balance of capillary tube formation versus regression in three-dimensional extracellular matrices"

2004 Vanderbilt University Medical Center, "Molecular control of capillary tube regression events in three-dimensional collagen matrices"

2004 University of Oklahoma Health Science Center, "Molecular regulation of capillary tube regression events: Implications for anti-angiogenic therapy of cancer"

2004 Medical College of Georgia, "Molecular control of capillary tube regression events in three-dimensional extracellular matrices"

2004 Developmental Vascular Biology Workshop, Monterey, CA, "Matrix metalloproteinase-1 is induced during capillary tubular morphogenesis to control vascular tube regression events in three-dimensional collagen matrices"

2004 FASEB meeting, Physiology Symposium entitled, *The role of integrins in vascular cell signaling and regulation of vascular function*, Seminar title- "Regulation of tissue injury responses by exposure of matricryptic sites within extracellular matrix molecules"

2003 Department of Pharmacology, Texas A&M University College of Medicine, "Molecular control of capillary tube regression in three-dimensional collagen matrices"

2003 Scripps Institute, La Jolla, CA, "Molecular control of capillary tube assembly and disassembly in three-dimensional extracellular matrices"

2003 Medical College of Wisconsin, Milwaukee, WI, "Role of Rho GTPases in capillary tube morphogenesis"

2003 Institute of Biotechnology, Houston, TX, "Molecular control of capillary tube morphogenesis in three-dimensional extracellular matrices"

2003 Invited speaker, Ernest Just Symposium, Medical College of South Carolina, "Endothelial cell morphogenesis"

2002 Laboratory of Developmental Biology, National Institutes of Health, "Molecul control of capillary tube morphogenesis and regression"

2002	Invited speaker, 3rd international meeting on Osteopontin, San Antonio, TX
2002	Invited speaker, FASEB meeting, “The role of Rho GTPases in endothelial cell morphogenesis” New Orleans, April.
2001	Invited participant and speaker, Banbury Center Conference on "Epithelial and Endothelial Tube Morphogenesis", Cold Spring Harbor Laboratory, Seminar title, " The Cdc42 and Rac1 GTPases are required for capillary lumen formation in three- dimensional extracellular matrices"
2001	Gordon conference on Angiogenesis, Poster presentation, "Molecular regulation of capillary morphogenesis and regression in three-dimensional collagen matrices"
2001	Department of Pathology, University of Virginia School of Medicine, Charlottesville, VA "Molecular regulation of capillary morphogenesis and regression in 3D matrices"
2000	Invited speaker, American Heart Association, National Meeting, New Orleans, LA, November, State of the Art Talk, "Regulation of tissue injury responses by matricryptic sites in extracellular matrix molecules" in Session on "Extracellular matrix turnover "
2000	Baxter Healthcare, Glendale, CA, "Molecular control of capillary morphogenesis in three-dimensional fibrin and collagen matrices"
2000	IDEC Pharmaceuticals, San Diego, CA, "Molecular regulation of capillary morphogenesis and regression in three-dimensional extracellular matrix environments"
2000	Texas A&M Health Science Center Faculty Retreat, " Molecular regulation of capillary morphogenesis"
2000	Abbott Laboratories, Abbott Park, IL, "Molecular regulation of capillary morphogenesis and regression in three-dimensional extracellular matrix environments"
2000	Division of Life Sciences Seminar Series, Univ. Texas, San Antonio, "Molecular regulation of capillary morphogenesis and regression in three-dimensional extracellular matrix environments".
2000	Experimental Biology '2000, San Diego, CA, "Molecular regulation of capillary morphogenesis and regression in three-dimensional extracellular matrix environments", Invited oral presentation.
2000	Keystone Symposium on Angiogenesis, Salt Lake City, UT, Three poster presentations.

1999	Reproductive Forum, Texas A&M University School of Veterinary Medicine, "Role of integrins and extracellular matrix in the regulation of capillary morphogenesis and tissue injury responses".
1999	Department of Medical Pharmacology, Texas A&M University Health Science Center, "Differential gene expression during capillary morphogenesis in three-dimensional collagen matrices".
1999	Department of Pathology, Scott & White Hospital, Temple, TX, "Adhesion molecules and human disease".
1999	Experimental Biology '99, Poster presentations
1998	Experimental Biology '98, Minisymposium on "Extracellular matrix, cell adhesion and the vessel wall"
1998	Vascular Biology '98, Poster presentation
1998	Keystone Symposium on "Angiogenesis and vascular remodelling", Poster presentation
1997	Department of Pathology, University of Texas, Houston Medical School
1997	Bayer Corporation, New Haven, CT
1997	13th Conference on Cellular Endocrinology, "Angiogenesis and Microcirculation", Poster presentation
1996	Keystone Symposium on "Integrins and Signaling events in Cell Biology and Disease", Poster presentation
1995	Gordon Conference on "Angiogenesis and Microcirculation", Poster presentation
1995	Symposium on Basement Membranes, NIH, Minisymposium on "Organ development/Morphogenesis"
1994	Keystone Symposium on "Biology of Physicochemical Interactions at the Cell Surface", Poster presentation
1994	FASEB, Atlanta, Minisymposium on "Extracellular matrix, cell adhesion and the vessel wall"
1992	Keystone Symposium on "Integrins: Cell Adhesion and Transmembrane Communication in Development and Disease", Poster presentation
1992	Department of Medical Pharmacology, TAMUHSC

1992	Veterinary Physiology and Pharmacology, TAMU College of Veterinary Medicine
1992	Department of Medical Physiology, TAMUHSC
1991	Society for Leukocyte Biology, Minisymposium on "Leukocyte adhesion"
1990, April	Tissue Culture Association, California Branch, Chairperson. Cellular interactions with Extracellular Matrix; "Interactions of developing leukocytes with extracellular matrix".
1988, Sept.	Minisymposium on Extracellular Matrix, National Institutes of Health, Bethesda, Maryland; "HL-60 promyelocytic leukemia cell metalloproteases".
1986, Sept.	NINCDS Grand Rounds, National Institutes of Health, Bethesda, Maryland; "Role of laminin-proteoglycan complexes and basement membranes in the promotion of neurite outgrowth".
1985, May	New York Academy of Sciences, New York, New York; Conference on Neurofibromatosis. "Characterization of a laminin-containing neurite promoting factor and a neuronotrophic factor from peripheral nerve and related sources".
1984, March	American Society of Neurochemistry Workshop, Portland, Oregon; Cell Culture Attachment Factors. "Neurite Promoting Factors".

Medical Meetings Attended

1994 Intensive Review of Internal Medicine, UT Southwestern Medical School

1996 Fifteenth Annual Current Issues in Surgical Pathology, UT Southwestern Medical School

Ad hoc reviewer for the following journals:

American Journal of Physiology
Cancer
Experimental Cell Research
Journal of Virology
Clinical and Experimental Metastasis
Journal of Cell Biology
Science
Brain Research
Developmental Brain Research
Journal of Leukocyte Biology

American Journal of Pathology
Journal of Cell Science
Trends in Cardiovascular Medicine
Atherosclerosis, Thrombosis and Vascular Biology
Circulation
Circulation Research
Journal of Angiogenesis
Journal of Vascular Biology
FASEB Journal
Molecular and Cellular Biology
Cancer Research
BBA-Cancer
Arthritis and Rheumatism
Current Biology
Blood
Microcirculation
Proc. Natl. Acad. Sci. USA
Development
Developmental Dynamics
Molecular Biology of the Cell
Nature Communications

Editorial Board

Microcirculation, 2010

Ad hoc reviewer for the following granting agencies:

American Cancer Society
Spinal Cord Research Foundation
National Institutes of Health, Pathology A Study Section
American Heart Association, Western States Affiliate
ZRG1 CVRS-L Special Emphasis Panel
ZRG1 CVRS-B Special Emphasis Panel (Challenge grants)
ZRG1 VH C (02) Special Emphasis Panel
Cell Biology IRG Review Group

Member of NCI site visit team:

NCI, Cancer and Immunology Branch site visit, Frederick, MD, Oct. 2018

Member of NIH study section:

Pathology A study section, 2002-2003
Cardiovascular Differentiation and Development (CDD) study section, 2004-2006
Chairperson, CDD study section starting this Oct. 2005-June 2006
College of CSR Reviewers, 2010

Member of AHA Study Section

Transformational Grant study section, May 2018

Professional Society Memberships

American Society for Investigative Pathology
American Association for the Advancement of Science
American Society for Cell Biology
North American Vascular Biology Organization

Grant Support

Current/Past

NIH-NHLBI- R01 **G.E. Davis- PI**, M. Kahn, C. Hughes, Coll. Investigators, "Molecular basis for defective pericyte-endothelial cell interactions regulating vascular malformations" 7/01/20- 4-30/24, $250,000/ yr.

NIH-NHLBI- R01 **G.E. Davis, O. Cleaver- multi-PI, "**Molecular regulation of Rho and Ras family GTPase activity controls vascular lumen formation" 1/14/20- 12/31/23, $250,000/ yr.

NIH-NHLBI- R01 **G.E. Davis, O. Cleaver- multi-PI,** "Priming of vascular tube morphogenesis: Novel role for VEGF and downstream RhoA activation" 9/01/17- 2/28/22, $250,000/ yr.

NIH-NHLBI-R01 **G.E. Davis- PI,** O. Cleaver, Coll. Investigator, "Novel growth factor and signaling requirements for human capillary tube assembly" 7/01/15- 2/28/21, $250,000/ yr.

NIH-NHLBI- R01 **G.E. Davis, O. Cleaver- multi-PI,** "GTPases as molecular gatekeepers of cytoskeletal and cellular polarization during endothelial tubulogenesis" 12/01/14- 11/30/19 (currently no-cost extension), $250,000/ yr.

NIH-NHLBI- R01 **G.E. Davis- PI**, "Hematopoietic stem cell cytokine control of developmental vascularization" 1/01/11- 12/31/15, $250,000/ yr.

NIH- NHLBI- R01 D. Vatner- PI, **G.E. Davis**, Coll. Investigator, G.A. Meininger, Coll. Investigator, SFRP2, cell survival, and coronary vascular angiogenesis, 07/01/13-06/30/14, $250,000/ yr.

NIH- NHLBI- R01 **G.E. Davis- PI**, M.J. Davis Coll. Investigator, "Pericyte proteinase inhibitors and EC tube stabilization" 1/12/10- 11/30/14, $250,000/ yr.

NIH-NHLBI - R01 **G.E. Davis- PI**, B. Weinstein- Coll. Investigator, S.C. Peck, Coll. Investigator, "Genes regulating capillary morphogenesis and apoptosis" 7/01/08- 6/30/13, $250,000/ yr.

NIH- NHLBI- R01 **G.E. Davis- PI**, M.J. Davis Coll. Investigator, D.C. Zawieja- Coll. Investigator, "Molecular control of EC lumen formation by MT1-MMP" 1/01/08- 12/31/12, $250,000/ yr.

NIH-NHLBI- R01 R.T. Tranquillo- PI, **G.E. Davis- Coll. Investigator**, "Biopolymer-guided human stem cell assembly for engineered myocardium" 9/05/11- 5/31/14, $65,000/ yr

DARPA- **G.E. Davis- PI** "Tissue engineering of dermal blood and lymphatic microvascular networks" 10/01/07- 12/31/09, $160,000.

NIH- NHLBI- R01 **G.E. Davis-PI**, M.J. Davis- Coll. Investigator, K.J. Leco- Coll. Investigator, "Pericyte proteinase inhibitors and EC tube stabilization" 2/01/05-12/31/09- $200,000/ yr.

NIH-NHLBI - R01 **G.E. Davis- PI**, B. Weinstein- Coll. Investigator, V. Wilson, Coll. Investigator, "Genes regulating capillary morphogenesis and apoptosis" 7/01/04- 6/30/08- $200,000/ yr.

NIH- NIAID- R21 **G.E. Davis- PI** "Function of CMG-2, an anthrax toxin receptor" 6/01/04- 5/30/06- $125,000/ yr.

AHA-National affiliate. **G.E. Davis- PI** "Role of the cell cycle regulatory gene, CMG-4, in the molecular control of angiogenesis. 1/01/03-12/31/05 Direct costs - $65,000/ yr

NIH-NHLBI M.J. Davis- PI, **G.E. Davis- Coll. Investigator**, "Regulation of vascular tone and calcium channels by integrins" 4/1/03-3/31/07 - $250,000/yr.

NIH-NHLBI M.J. Davis- PI, **G.E. Davis- Coll. Investigator**, "Regulation of arteriolar tone and K channels by integrins" 8/1/03-7/31/07 - $250,000 (lst yr) and $225,000 years 2-4.

NIH- NHLBI, (HL 59373) **G.E. Davis- PI** "Genes regulating capillary morphogenesis and apoptosis", 4-98 to 3/03, Direct costs, $ 201,000/ yr.

J.D. Humphrey-PI, L. Kuo, T. Fossum, M. Miller, E. Wilson, K.R. Rajagopal, J. Stallone, **G.E. Davis**, **all- Co-PIs** NIH-NHLBI "Histo-mechanics & biology of remodeling in hypertension" 1/01/02-12/31/07 Direct costs- $386,500/ yr

S.L. Gonias, Co-PI- S.V. Pizzo, Co-PI- **G.E. Davis** NIH-NCI (APRC grant) PI, "Alpha2-macroglobulin in cancer angiogenesis" 7/01- 6/04 Direct costs- $35,000/ yr per PI.

PI- G.E. Davis Texas Higher Education Coordinating Board, A novel gene, capillary morphogenesis gene-2, regulates angiogenic responses in three-dimensions 1/02- 12/03 Direct costs- $100,000 per yr.

PI- G.E. Davis NIH-NHLBI (HL 59971) " Microvascular regulation by cryptic ECM signals" 12/98-11/03, Direct costs- $ 155,000/ yr

P.I. Gerald A. Meininger, Ph.D., **Co-PI, George E. Davis M.D., Ph.D.**, Co-PI, Michael J. Davis, NIH, NHLBI, Microvascular control: A role for integrins", 4-98 to 3/02, Direct costs, $ 189,000/ yr.

P.I. George E. Davis M.D., Ph.D., Co-PI, Gerald A. Meininger, Ph.D., Interdisciplinary Research Initiative (IRI-96-81), Texas A&M University, $ 25,000 total, 5-1-96 to 4-30-97, "Role of integrins in vascular responses to tissue injury".

P.I. George E. Davis M.D., Ph.D., American Heart Association, Texas Affiliate (94R-025), $83,600 total, 7-1-94 to 6-30-96, "The integrin $\alpha 6\beta 1$, and mechanical forces regulate angiogenesis".

P.I. George E. Davis M.D., Ph.D., American Heart Association, Texas Affiliate (92G-025), $70,400 total, 7-1-92 to 6-30-94, "Integrin mediated regulation of angiogenesis and neutrophil-endothelial adhesion".

P.I. George E. Davis M.D., Ph.D., DHEW Biomedical Research Support Grant (#402026), $6000 total, 1-93 to 12-93, "Integrin-mediated recognition of damaged extracellular matrix".

P.I. George E. Davis M.D., Ph.D., Faculty Minigrant, $1500, 2-96 to 1-97, "Molecular control of human capillary formation".

P.I. George E. Davis M.D., Ph.D., Faculty Minigrant, $800, "Cell adhesion peptides with affinity for integrins".

Publications

1. Manthorpe, M., Engvall, E., Ruoslahti, E., Longo, F. M., **Davis, G.E.** and Varon, S. (1983) Laminin promotes neuritic regeneration from cultured peripheral and central neurons. **J. Cell Biol.** 97:1882-1890.

2. Longo, F.M., Hayman, E., **Davis, G. E.**, Ruoslahti, E., Engvall, E., Manthorpe, M. and Varon, S. (1984) Neurite promoting factors and extracellular matrix components accumulating *in vivo* within nerve regeneration chambers. **Brain Res.** 309:105-118.

3. **Davis, G. E.**, Skaper, S. D., Manthorpe, M., Moonen, G. and Varon, S. (1984) Fetal calf serum-mediated inhibition of neuritic growth from chick ciliary ganglion neurons. **J. Neurosci. Res.** 12:29-40.

4. Varon, S., Williams, L. R., **Davis, G. E**. and Manthorpe, M. (1985) Molecular and physical regulations of nerve regeneration in a chamber model. In "Developmental Neuroscience: Physiological, Pharmacological and Clinical Aspects," eds. F. Caciagli and R. Paoletti. Elsevier, Amsterdam, pp. 245-250.

5. **Davis, G. E.**, Manthorpe, M. and Varon, S. (1985) Parameters of neuritic growth from ciliary ganglion neurons *in vitro*: Influence of laminin, schwannoma polyornithine-binding neurite promoting factor and ciliary neuronotrophic factor. **Dev. Brain Res.** 17:75-84.

6. Filutowicz, M. **Davis, G. E.**, Greener, A. and Helinski, D.R.. (1985) Autorepressor properties of the π–initiation protein encoded by plasmid R6K. **Nucl. Acids Res.** 13:103-114.

7. Manthorpe, M., **Davis, G. E.** and Varon, S. (1985) Purified proteins acting on cultured chick embryo ciliary ganglion neurons. **Fed. Proc.** 44:4-10.

8. Unsicker, K., Skaper, S. D., **Davis, G. E.**, Manthorpe, M. and Varon, S. (1985) Comparison of the effects of laminin and the polyornithine-binding neurite promoting factor (PNPF) from RN22 schwannoma cells on neurite regeneration from cultured adult rat dorsal root ganglion neurons. **Dev. Brain Res.** 17:304-308.

9. Carnow, T. B., Manthorpe, M., **Davis, G. E.** and Varon, S. (1985) Localized survival of ciliary ganglionic neurons identifies neuronotrophic factor bands on nitrocellulose blots. **J. Neurosci.** 5:1965-1971.

10. **Davis, G. E.**, Manthorpe, M., Engvall, E. and Varon, S. (1985) Isolation and characterization of rat schwannoma neurite promoting factor: Evidence that the factor contains laminin. **J. Neurosci.** 5:2662-2671.

11. **Davis, G. E.**, Varon, S., Engvall, E. and Manthorpe, M. (1985) Substratum-binding neurite promoting factors: Relationships to laminin. **Trends in Neurosci.** 8:528-532.

12. **Davis, G. E.**, Manthorpe, M., Williams, L. R. and Varon, S. (1986) Characterization of a laminin-containing neurite promoting factor and a neuronotrophic factor from peripheral nerve and related sources. **Ann. NY Acad. Sci.** 486:194-205.

13. Varon, S. Rudge, J., **Davis, G. E.**, Skaper, S. D. and Manthorpe, M. (1986) Astroglia production of neuronotrophic and neurite promoting agents. In "Dynamic properties of glial cells 2, Cellular and Molecular Aspects:, eds. T. Grisar and G. Franck. **Adv. Bioscience** 61:203-211.

14. Montz, H. P. M., **Davis, G. E**., Skaper, S. D., Manthorpe, M. and Varon, S. (1985) Tumor-promoting phorbol diester mimics two distinct neuronotrophic factors. **Dev. Brain Res.** 23:150-154.

15. Fryer H. J. L., **Davis, G. E**., Manthorpe, M. and Varon, S. (1986) Lowry protein assay using an automatic microtiter plate spectrophotometer. **Anal. Biochem.** 153:262-266.

16. Varon, S., Manthorpe, M., **Davis, G. E.**, Williams, L. R. and Skaper, S. D. (1988) Growth Factors. In "Functional Recovery in Neurological Disease", ed S. G. Waxman **Adv. Neurol.** 47:493-521.

17. Rudge, J., **Davis, G. E.**, Manthorpe, M. and Varon, S. (1987) An examination of ciliary neuronotrophic factors from avian and rodent tissue extracts using a blot and culture technique. **Dev. Brain Res.** 32:103-110.

18. **Davis, G. E.** Klier, F. G., Engvall, E., Cornbrooks, C., Varon, S. and Manthorpe, M. (1987) Association of laminin with heparan and chondroitin sulfate-bearing proteoglycans in neurite-promoting factor complexes from rat schwannoma cells. **Neurochem. Res.** 12:909-921.

19. **Davis, G. E**., Engvall, E., Varon, S. and Manthorpe, M. (1987) Human amnion membrane as a substratum for cultured peripheral and central nervous system neurons. **Dev. Brain Res.** 33:1-10.

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22. Danielson, N., Müller, H., Pettman, B., Williams, L. R., **Davis, G. E.**, Engvall, E., Manthorpe, M. and Varon, S. (1988) Rat amnion membrane matrix as a substratum for regenerating axons from peripheral and central neurons: Effects in a silicone chamber model. **Dev. Brain Res.** 39:39-50.

23. Blaker, S.N., **Davis, G.E**., Manthorpe, M., Engvall, E., Varon, S. and Gage F. H. (1988) Human amnion membrane as a substratum for axonal elongation *in vitro* and *in vivo*. **Prog. Brain Res.** 78:435-438.

24. Gage, F. H., Blaker, S. N., **Davis, G. E.**, Engvall, E., Varon, S. and Manthorpe, M. (1988) Human amnion membrane matrix as a substratum for axonal regeneration in the central nervous system. **Exp. Brain Res.** 72:371-380.

25. Travis, W. D., **Davis, G. E.**, Tsokos, M., Lebovics, R., Merick, H. F. W., Miller, S. P. F., Gregg, R.. E., Di Bisceglie, A. M., Parker, R. I., Ishak, K. G. and Filling-Katz, M. R. (1989) Multifocal verruciform xanthoma of the upper aerodigestive tract in a child with a systemic lipid storage disease. **Am. J. Surg. Pathol.** 13:309-316.

26. **Davis, G. E.** and Martin, B. M. (1990) A latent Mr 94,000 gelatin-degrading metalloprotease induced during differentiation of HL-60 promyelocytic leukemia cells: A member of the collagenase family of enzymes. **Cancer Res.** 50:1113-1120.

27. **Davis, G. E.** (1991) Identification of an abundant latent 94 kDa gelatin-degrading metalloprotease in human saliva which is activated by acid exposure: Implications for a role in digestion of collagenous proteins. **Arch. Biochem. Biophys.** 286:551-554.

28. Gehlsen, K.R., **Davis, G.E.** and Sriramarao, P. (1992) Integrin expression in human melanoma cells with differing invasive and metastatic properties. **Clin. Exp. Metastasis** 10:111-120.

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Exp. Cell Res., 216: 113-123.

34. **Davis, G.E.** and Camarillo, C.W. (1996) An α2β1 integrin-dependent pinocytic mechanism involving intracellular vacuole formation and coalescence regulates capillary lumen and tube formation in three-dimensional collagen matrix. **Exp. Cell Res.**, 224: 39-51.

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