

Chris J. Sullivan
Assistant Professor
Department of Biological Sciences
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Education

Ph.D., Physiological Sciences, 2002

University of Arizona, Tucson, Arizona

Dissertation: The Role of Fibroblast Growth Factor-2 in Vascular Remodeling and Adaptation

Doctoral Advisor: James B. Hoying, Ph.D.

B.S., Physical Education (Exercise Science), with Honors, 1994

University of California, Davis, California

Past Teaching Positions

2003 **Lecturer & Coordinator Biomedical Engineering, University of Arizona**

- BME 411/511, Undergraduate/Graduate Systems Physiology for Engineers. Course coordination, planning, examinations, course website, and administrative duties in team-taught lecture course. Lecture areas included electrophysiology, respiratory, endocrine, and integrative physiology.

2001 **Instructor Biomedical Engineering, University of Arizona**

- BME 411/511, Undergraduate/Graduate Systems Physiology for Engineers. Integrative and exercise physiology lectures.

1997-2000 **Teaching Assistant Department of Physiology, University of Arizona**

- PSIO 421, Physiological Sciences Laboratory. Instructed labs and lectures designed to introduce students to commonly used equipment in exercise physiology and to teach the physiological basis for various laboratory procedures in exercise physiology.
- PSIO 801, Human Physiology. Instructed medical students in interpretation of electrocardiograms.

1994-1997 **Teaching Assistant University of California, Davis**

- Department of Neurobiology, Physiology, and Behavior – NPB 101 and 101L, Systemic Physiology Lecture and Laboratory; NPB 104L, Cellular Physiology and Neurobiology Laboratory.
- Department of Exercise Science – EXS 101 and 101L, Exercise Physiology Lecture and Laboratory; EXS 102, Physiological Adaptation to Exercise; EXS 105, Motor Learning and the Psychology of Sport and Exercise; EXS 112, Clinical Exercise Physiology.

Research Experience

2003-2005 Post-Doctoral Researcher, Department of Urology, University of Washington

- Studying vascular complications related to diabetes mellitus and aging using *in vitro* and *in vivo* models, specifically related to erectile dysfunction and cavernosal homeostasis. Techniques used include microarrays, immunohistochemistry, small animal physiology, surgery, real-time PCR, vascular cell isolation, and cell culture.
- Investigating the diversity of the endothelium through transcriptional profiling of endothelial cell lines isolated and cultured from various tissues and vessel segments. Also, collaborating to study the responses of cultured cavernosal endothelial and smooth muscle cells to hemodynamic forces such as stretch and shear stress.

2002-2003 Post-Doctoral Researcher, Biomedical Engineering, University of Arizona

- Collaborated in project examining the incorporation of prevascularized collagen implants into the host vasculature in mice, including intravital fluorescence imaging and confocal microscopy.
- Used cDNA microarrays to identify gene programs involved in angiogenesis and arterial remodeling.

1997-2002 Doctoral Candidate Physiological Sciences, University of Arizona

- Developed a model to study carotid artery remodeling after chronic blood flow changes in mice.
- Studied growth factor regulation of blood vessel growth and adaptation (angiogenesis and arteriogenesis) in response to peripheral ischemia.
- Trained students and personnel in use of laboratory equipment and techniques.
- Presented research results at international, national, and local meetings.

1994-1997 Research Assistant University of California, Davis

- Department of Neurobiology, Physiology, and Behavior
- Department of Exercise Science – Human Performance Laboratory

Publications, Book Chapters, and Abstracts

Journal Articles:

CJ Sullivan, TH Teal, IP Luttrell, KB Tran, MA Peters, and H Wessells. Microarray analysis reveals novel gene expression changes associated with erectile dysfunction in diabetic rats. *Physiological Genomics*. Aug. 2005 [Epub ahead of print].

C.J. Sullivan, J.B. Hoying. Flow-Dependent Remodeling in the Carotid Artery of Fibroblast Growth Factor-2 Knockout Mice. *Arterioscler Thromb Vasc Biol*. 2002; 22: 1100-1105.

C.J. Sullivan, T. Doetschman, J.B. Hoying. Targeted Disruption of the *Fgf2* Gene Does Not Affect Vascular Growth in the Mouse Ischemic Hindlimb. *J Appl Physiol*. 2002; 93: 2009-2017.

J.K. Barton, J.B. Hoying, **C.J. Sullivan**. Use of Microbubbles as an Optical Coherence Tomography Contrast Agent. *Acad Radiol*. 2002; 9 Suppl 1: S52-S55.

Book Chapters:

J.B. Hoying, K.R. Kidd, and **C.J. Sullivan**. Heterogeneity in Angiogenesis. In: *Genetics of Angiogenesis*. J.B. Hoying, ed. Oxford: Bios Scientific Publishers. 2003.

J.J. Shultz, J.B. Hoying, **C.J. Sullivan**, and T. Doetschman. FGF and the Cardiovascular System. In: *Fibroblast Growth Factor in the Cardiovascular System*. P. Cuevas, ed. Munich: I. Holzapfel Publishers. 2002.

Abstracts (Recent Only):

C.J. Sullivan, T.H. Teal, I.P. Luttrell, K.B. Tran and H. Wessells. Expression Profiling of Human Corpus Cavernosal Endothelial Cells. American Urological Association, Conference. 2004

C.J. Sullivan, T.H. Teal, K. Engels, and H. Wessells. Expression Profiling of Human Corpus Cavernosal Endothelial Cells. American Heart Association, Grover Conference. 2004

C.J. Sullivan, K.A. Greer, and J.B. Hoying. Differential Gene Expression in the Ischemic Hindlimb of FGF2 Knockout Mice. *FASEB J.* 2003; 17: A78.

C.J. Sullivan, J.B. Hoying. FGF2 is Not Essential for Flow-Dependent Remodeling in the Mouse. *Cardiovasc Pathol.* 2002; 11: 18.

C.J. Sullivan, J.B. Hoying. A Model to Evaluate Ischemic Tissue Revascularization Mediated by Engineered Implants. Sixth World Biomaterials Congress, Society for Biomaterials, Kamuela, Hawaii, May 15-20, 2000.

Technical Report:

A Study Evaluating the Healing Response Associated with a Three-Dimensional Fibroblast Culture Implant for use as a Peripheral Ischemia Angiogenesis Patch. Final Report Completed January 30, 2000.

Awards, Honors, and Memberships

American Urological Association Travel Award, NIH-Urologic Complications of Diabetes, Bethesda, Maryland, 2003

Young Investigator Award, International Society of Applied Cardiovascular Biology 8th Biennial Meeting, St. Gallen, Switzerland, 2002

American Heart Association Predoctoral Fellowship, 1999-2001

NIH- National Heart, Lung, and Blood Institute Predoctoral Trainee, 1997-1999

University of Arizona Graduate College Fellowship

Departmental Citation for Outstanding Undergraduate Accomplishment, UC Davis, 1994

Member, American Heart Association, 2003-present

Member, American Physiological Society, 1998-present

Student Representative, U.A. Physiological Sciences Program Committee, 2000-2001