­­­­­CURRICULUM VITAE

**STUART K. WILLIAMS II, Ph.D.**

**Current Position:** Director, Bioficial Organs Program

Jewish Hospital Endowed Chair

In Cardiovascular Innovation

University of Louisville

302 E Muhammad Ali Boulevard

Louisville, Kentucky 40202

Professor

Department of Physiology and Biophysics

(primary with tenure)

University of Louisville

**Office:** (502) 852-1379

**Mobile:** (502) 693-5250

**Fax:** (502) 852-1391

**Email:** [stu.williams@louisville.edu](mailto:stu.williams@louisville.edu)

[cvregen@gmail.com](mailto:cvregen@gmail.com)

website: cvregen.com

**Birth date:** April 3, 1952

**Birthplace:** Wilmington, Delaware

**Married:** Carol Lynn Mraz

**Children:** Kyle Clifford; Ross Stuart

**EDUCATION:**

**Postdoctoral Fellow:** Yale University School of Medicine

New Haven, Connecticut, 1981

Major Field: Pathology

Research: Blood Vessel Pathology

Atherosclerosis and Diabetic Angiopathy

Advisor: Dr. Mark W. Bitensky

**Doctor of Philosophy:** University of Delaware

Newark, Delaware, 1979

Major: Cell Biology

Minor: Physiology

Dissertation: Micropinocytosis in Isolated Capillary Endothelium

Dissertation Advisor: Dr. Roger C. Wagner

**Master of Science:** University of Delaware

Newark, Delaware, 1976

Major: Biological Sciences

Minor: Plant Physiology

Thesis: Urea Transport in the Unicellular Green

Alga, Chlamydomonas reinhardi.

Thesis Advisor: Dr. Robert C. Hodson

**Bachelor of Arts:** University of Delaware

Newark, Delaware, 1974

Major: Biological Sciences

Senior Research Project: Biochemistry and Enzymology of a Green

Alga, Chlamydomonas reinhardi.

**PROFESSIONAL EXPERIENCE:**

**2013–Present** Director Bioficial Organs Program

Louisville, Kentucky 40202

**2014-Present**  Professor Department of Physiology and

Biophysics

University of Louisville

Louisville, KY 40202

**2007-2014**  Professor Department of Surgery

University of Louisville

Louisville, Kentucky 40202

**2010-2013** Executive Director Cardiovascular Innovation Institute

University of Louisville and

Jewish Hospital

Louisville, Kentucky 40202

**2007-2013** Scientific Director Cardiovascular Innovation Institute

University of Louisville and

Jewish Hospital

Louisville, Kentucky 40202

**1997-2007** Professor and DirectorDivision of Biomedical Engineering

Arizona Research Laboratories

University of Arizona

Tucson, Arizona 85721

**1997-2007** Chairman Biomedical Engineering Graduate

Program

University of Arizona

Tucson, Arizona 85721

**1996-2007** Professor Department of Materials Science &

Engineering

College of Mines and Engineering

University of Arizona

Tucson, Arizona 85721

**1994-2007**  Professor Department of Physiology

University of Arizona Health

Sciences Center

College of Medicine

Tucson, Arizona 85724

**1991-2007** Professor Department of Surgery

University of Arizona Health

Sciences Center

College of Medicine

Tucson, Arizona 85724

**1991 - 2000**  Section Head Section of Surgical Research

Department of Surgery

University of Arizona Health

Sciences Center

College of Medicine

Tucson, Arizona 85724

**1995-1997** Chairman University of Arizona Committee for

Medical and Biological Engineering

**1993-1996**  Chairman Physiological Sciences Graduate

Program

University of Arizona

Tucson, Arizona 85724

**1991-1994**  Associate Professor Department of Physiology

University of Arizona Health

Sciences Center

College of Medicine

Tucson, Arizona 85724

**1986-1991**  Director of Research

Associate Professor Department of Surgery

Associate Professor Department of Pathology/Cell

Biology

Associate Professor Department of Physiology

Jefferson Medical College

Philadelphia, Pennsylvania

**1981-1985** Assistant Professor Department of Physiology

Jefferson Medical College

Philadelphia, Pennsylvania

**1979-1981** Postdoctoral Fellow Department of Pathology

Yale School of Medicine

New Haven, Connecticut

**1976-1979**  Graduate Teaching School of Life and Health Sciences

Assistant University of Delaware

Newark, Delaware

**ENTREPRENEURIAL EXPERIENCE:**

**2011 – Present** Director of Cell Biology IKOTECH

New Albany, IN

**2011 – Present** Scientific AdvisorTechShot,

New Albany, IN

**2010 - Present** Co-Founder Riviera Medical

Technologies, Inc.

Louisville, KY

**2004-Present** Co-Founder and Angiomics, Inc.

Chief Science Officer Tucson, AZ

**2003-Present** President and Founder Paré Technologies

Tucson, AZ

**2003 - 2012** Co-Founder Theregen, Inc.

Member, Scientific Advisory San Francisco, CA

Board

**2003-2007** Scientific Advisor MediPacs, Inc.

Tucson, AZ

**2002-Present** Chief Science Officer Tissue Genesis, Inc.

Honolulu, HI

**1998-Present** Member, Scientific Advisory BioHeart, Inc.

Board Sunrise, FL

**1994-Present** Scientific Advisor SurModics, Inc.

Eden Prairie, MN

**HONORS AND AWARDS:**

Business First Partner in Healthcare, Louisville Kentucky 2014

Business First Partner in Healthcare, Louisville Kentucky 2013

President, International Federation of Adipose Therapeutics and Science (IFATS) Society,

2011

Business First Partner in Healthcare, Louisville Kentucky 2012

Jewish Hospital Distinguished Endowed Chair in Cardiovascular Innovation, 2008

Distinguished Alumnus, University of Delaware, Department of Biological Sciences, 2004

R&D Magazine: One of the 100 Most Technologically Significant New Products of the

Year for the Development of 3D Printing BioAssembly Tool, Sciperio, Inc., Human Architectural Technologies, Inc. and University of Arizona, October 2003

Surfaces in Biomaterials, Excellence in Surface Science Award, 2001

Fellow, American Heart Association, 2001

Visiting Scholar, University of Utrecht, Netherlands, 1999

Fellow, American Institute Medical and Biological Engineering, 1999

Research Career Development Award, NIH, 1985

Searle Scholar, 1983

New Investigator Award, NIH, 1981

Lamport Award (Young Investigator) of the Microcirculatory Society, 1981

National Science Foundation Postdoctoral Fellow, Yale School of Medicine, 1980-1981

James Hudson Brown Fellow in Pathology, Yale School of Medicine, 1979-1980

UNIDEL Predoctoral Research Fellow, 1977-1979

UNIDEL Research Fellow, Summer 1974

**MEMBERSHIPS AND AFFILIATIONS:**

Microcirculatory Society Inc., 1981-Present

Surfaces in Biomaterials Foundation, 1994-Present

Academy of Surgical Research, 1992-Present

Society for Biomaterials, 1994-Present

American Institute for Medical and Biological Engineering, 2005-

Present  
The Transplantation Society, 2007-Present

BIO5 Institute, University of Arizona, 2004-2007

International Federation of Adipose Therapeutics and Science (IFATS) Society, 2009-Present

International Society of Endovascular Specialists, 2001-2007

Society for Biomaterials, University of Arizona Student Chapter, Faculty Advisor, 2000 - 2007

American Association of Anatomists, 2000 - 2007

University of Arizona Vascular Health Group, 1999 - 2007

Arizona Cancer Center, 1997 - 2007

AAMC Group on Graduate Research, Education, and Training, 1996 - 2007

Cell Transplantation, 1995- 2007

Vascular Access Society of Arizona, Organizing Committee, 1995- 2007

American Diabetes Association, 1994 to present

Southwest Association for Education in Biomedical Research, 1994 - 2007

Society for Leukocyte Biology, 1994- 2000

Arizona Society Electron Microscopy Microbeam Analysis, 1993- 2007

Association for the Advancement of Medical Instrumentation, 1993 - 2000

American Association for Laboratory Animal Science, Arizona Branch, 1992 - 2007

University Heart Center, UMC, Tucson, AZ, 1992 - 2007

American Society Artificial Internal Organs, 1992 - 2005

International Society for Applied Cardiovascular Biology, Founding Member, 1988 - present

Executive Council, 1996 - 2005

Tissue Culture Association of America/Society for In Vitro Biology, 1988 - 2000

American Heart Association, Thrombosis Council, 1987 - present

American Physiological Society, 1983 - present

Experimental Biology, 1983- present

American Society of Cell Biologists, 1982 - 2001

Ischemia-Shock Research Center of Thomas Jefferson University, 1981- 1990

Microscopy Society of America, 1979 - 1990

Sigma Xi, 1979

American Association for the Advancement of Science, 1977-Present

American Society of Plant Physiologists, 1977 - 1985

New York Academy of Sciences, 1977

**RESEARCH INTERESTS AND EXPERIENCE:**

**Regenerative Medicine**

* + 3D Bioprinting
  + Regenerative Medicine/Tissue Engineering
* Adult Stem Cell Transplantation
* Angiomics - Microarrays, Genomics and Proteomics
* Shear Effects on Cells
* Restenosis
* Angiogenesis
* Gene Therapy

**Medical Devices**

* + Biomedical Implant Design
* Stents and Stent Grafts
  + Surface Modification and Characterization
  + Soft Tissue Replacement
  + Cell Migration
  + Anti-Infective Coatings

**Diabetes Mellitus**

* Non Enzymatic Glycation
  + - * + Capillary Permeability and Angiopathies
        + Islet Cell Transplantation

**Regulatory Experience**

* Good Laboratory Practices
* Good Tissue Practices
* Good Manufacturing Practices
* Good Clinical Practices
* Investigational Device Exemptions
* Investigational New Drugs
* 510K applications
* AAMI Testing
* ISO standards
* CE Mark

**TEACHING AND TRAINEES**

**Teaching**

2014 Lecturer, Leadership Louisville

Lecturer, Health Enterprise Network Louisville Healthcare Fellows Program

Business Education Course in Regenerative Medicine Lecture Series at Case Western Reserve, Cleveland

Physiology 609 Cardiovascular Physiology

2013 Lecturer, Leadership Louisville

Lecturer, Health Enterprise Network Louisville Healthcare Fellows Program

John G. Maijub, M.D., Surgery Resident Research Program

Business Education Course in Regenerative Medicine Lecture Series at Case Western Reserve, Cleveland

Monthly Lecture, Cardiovascular Research at the Cardiovascular Innovation Institute

2012 Louisville Public Library, Regenerative Medicine

Lecturer, Leadership Louisville

Lecturer, Health Enterprise Network Louisville Healthcare Fellows Program

John G. Maijub, M.D., Surgery Resident Research Program

Business Education Course in Regenerative Medicine Lecture Series at Case Western Reserve, Cleveland

Monthly Lecture, Cardiovascular Research at the Cardiovascular Innovation Institute

2011 Laxmi Krishnan, Ph.D., CII Postdoctoral Fellowship Program

Amanda LeBlanc, Ph.D., CII Postdoctoral Fellowship Program

Tristen LeMunyon, Undergraduate Internship in Cardiovascular Regenerative Medicine

Business Education Course in Regenerative Medicine Lecture Series at Case Western Reserve, Cleveland

Lecturer, Leadership Louisville

Lecturer, Health Enterprise Network Louisville Healthcare Fellows Program

Monthly Lecture, Cardiovascular Research at the Cardiovascular Innovation Institute

2010 Laxmi Krishnan, Ph.D., CII Postdoctoral Fellowship Program

Amanda LeBlanc, Ph.D., CII Postdoctoral Fellowship Program

Business Education Course in Regenerative Medicine Lecture Series at Case Western Reserve, Cleveland Lecturer, Leadership Louisville

Lecturer, Leadership Louisville

Lecturer, Health Enterprise Network Louisville Healthcare Fellows Program

Monthly Lecture, Cardiovascular Research at the Cardiovascular Innovation Institute

2009 Laxmi Krishnan, Ph.D., CII Postdoctoral Fellowship Program

Amanda LeBlanc, Ph.D., CII Postdoctoral Fellowship Program

Business Education Course in Regenerative Medicine Lecture Series at Case Western Reserve, Cleveland

Monthly Lecture, Cardiovascular Research at the Cardiovascular Innovation Institute

2008 Monthly Lecture, Cardiovascular Research at the Cardiovascular Innovation Institute

Heidi Hoefer, Undergraduate Internship in Cardiovascular Research

2007 NATS 104 Biology in Medicine, Engineering and Applied Sciences. Co-coordinator and lecturer, 3 credits; 35 undergraduates

Course Organizer, BME 597G: Laboratory Rotations; 1-3 credits; 2 graduate students

Lecturer, BME 511: Physiology for Biomedical Engineers; 3 credits; 13 graduate students

Instructor, BME 599: Independent Study in Biomedical Engineering, 1 credit, 1 graduate student

Lecturer, PSIO 603: Systems Physiology, Cardiovascular Physiology section; 6 credit; 15 graduate students

Instructor, PSIO 610: Research Methods in Physiology, 1 credit, 2 graduate students

2006 Lecturer BME 597: Laboratory Rotations; 1-3 credits; 4 graduate students

Lecturer, BME 410/510: Biology for Biomedical Engineers; 3 credits; 20 graduate students

Lecturer, PSIO 503: Cell Physiology, Extracellular Matrix and Heart Failure lectures; 5 credit; 20 graduate students

Lecturer, BME 576, Microvascular Biology; 3 credits, 8 graduate students.

NATS 104 Biology in Medicine, Engineering and Applied Sciences. Co-coordinator and lecturer, 3 credits; 35 undergraduates

Lecturer BME 597: Laboratory Rotations; 1-3 credits; 1 graduate student

Lecturer, BME 511: Physiology for Biomedical Engineers; 3 credits; 17 graduate students

Session Facilitator, PSIO 602: Readings in Systems Physiology, Cardiovascular Physiology section; 1 credit; 20 graduate students

2005 Lecturer BME 597: Laboratory Rotations; 1-3 credits; 1 graduate students

Lecturer, BME 410/510: Biology for Biomedical Engineers; 3 credits; 14 graduate students; 13 undergraduates

Lecturer, PSIO 503: Cell Physiology, lectures; 5 credits; 19 graduate students

NATS 104 Biology in Medicine, Engineering and Applied Sciences. Co-coordinator and lecturer, 3 credits; 35 undergraduates

Course Organizer, BME 597: Laboratory Rotations; 1-3 credits; 1 graduate students

Lecturer, BME 411/511: Physiology for Biomedical Engineers; 3 credits; 16 graduate students; 23 undergraduate students

Session Facilitator, PSIO 602: Readings in Systems Physiology, Extracellular Matrix and Heart Failure Cardiovascular Physiology section; 1 credit; 21 graduate students

2004 Lecturer BME 597: Laboratory Rotations; 1-3 credits; 1 graduate students

Lecturer, BME 410/510: Biology for Biomedical Engineers; 3 credits; 15 graduate students; 13 undergraduates

Lecturer, PSIO 503: Cell Physiology, Extracellular Matrix and Heart Failure lectures; 5 credits; 27 graduate students

NATS 104 Biology in Medicine, Engineering and Applied Sciences. Co-coordinator and lecturer, 3 credits; 35 undergraduates

Lecturer BME 597: Laboratory Rotations; 1-3 credits; 1 graduate student

Lecturer, BME 411/511: Physiology for Biomedical Engineers; 3 credits; 15 graduate students; 17 undergraduate students

Session Facilitator, PSIO 602: Readings in Systems Physiology, Cardiovascular Physiology section; 1 credit; 15 graduate students

2003 Course Organizer, BME 597: Laboratory Rotations; 1-3 credits; 1 graduate students

Lecturer, BME 410/510: Biology for Biomedical Engineers; 3 credits; 13 graduate students; 10 undergraduates

Lecturer, PSIO 503: Cell Physiology, Physiological Genomics lectures; 5 credit; 17 graduate students

NATS 104 Biology in Medicine, Engineering and Applied Sciences. Co-coordinator and lecturer, 3 credits; 35 undergraduates

Course Organizer, BME 597: Laboratory Rotations; 1-3 credits; 1 graduate student

Lecturer, BME 411/511: Physiology for Biomedical Engineers; 3 credits; 8 graduate students; 16 undergraduate students

Session Facilitator, PSIO 602: Readings in Systems Physiology, Cardiovascular Physiology section; 1 credit; 13 graduate students

2002 Course Organizer, BME 597: Laboratory Rotations; 1-3 credits; 4 graduate students

Lecturer, BME 410/510: Biology for Biomedical Engineers; 3 credits; 13 graduate students; 14 undergraduates

Lecturer, PSIO 503: Cell Physiology, Physiological Genomics lectures; 5 credit; 15 graduate students

NATS 104 Biology in Medicine, Engineering and Applied Sciences. Co-coordinator and lecturer, 3 credits; 35 undergraduates

Course Organizer, BME 597: Laboratory Rotations; 1-3 credits; 6 graduate students

Lecturer, BME 411/511: Physiology for Engineers; 3 credits; 8 graduate students; 11 undergraduate students

Session Facilitator, PSIO 602: Readings in Systems Physiology, Cardiovascular Physiology section; 1 credit; 12 graduate students

2001 Lecturer, MATH 596a: IGERT Forum; 2 credits; 15 graduate students

Course Organizer, BME 597: Laboratory Rotations; 1-3 credits; 4 graduate students

Lecturer, BME 410/510: Biology for Biomedical Engineers; 3 credits; 9 graduate students; 5 undergraduates

Lecturer, SURG 596I: Molecular Cardiovascular Biology, 3 credits; 10 graduate students

Lecturer, PSIO 503: Cell Physiology, Physiological Systems lectures; 5 credit; 20 graduate students

NATS 104 Biology in Medicine, Engineering and Applied Sciences. Co-coordinator and lecturer, 3 credits; 35 undergraduates

Course Organizer, BME 597: Laboratory Rotations; 1-3 credits; 6 graduate students

Lecturer, BME 411/511: Physiology for Engineers; 3 credits; 9 graduate students; 13 undergraduate students

Session Facilitator, PSIO 602: Readings in Systems Physiology, Cardiovascular Physiology section; 1 credit; 12 graduate students

2000 Course Organizer, BME 597: Laboratory Rotations; 1-3 credits; 8 graduate students

Lecturer, BME 410/510: Biology for Biomedical Engineers; 3 credits; 14 graduate students; 10 undergraduate

Lecturer, SURG 596I: Molecular Cardiovascular Biology, Genetic Models and Angiogenesis lectures; 3 credits; 8 graduate students

Lecturer, PSIO 503: Cell Physiology, Physiological Genomics lectures; 5 credits; 18 graduate students

BME 597x: Research methods; 2 credits; 2 graduate students

BME 900: Research; 8 credits; 2 graduate students

NATS 104 Biology in Medicine, Engineering and Applied Sciences. Co-coordinator and lecturer, 3 credits; 35 undergraduates

Course Organizer, BME 597: Laboratory Rotations; 1-3 credits; 10 graduate students

Lecturer, BME 411/511: Physiology for Engineers; 3 credits; 10 graduate students; 11 undergraduates

Session Facilitator, PSIO 602: Readings in Systems Physiology, Cardiovascular Physiology section; 1 credit; 8 graduate students

1999 Course Organizer, BME 597: Laboratory Rotations; 1-3 credits; 12 graduate students

Lecturer, BME 595a: Topics in Tissue Engineering; 1 credit; new permanent course

Course Coordinator and lecturer, BME 410/510: Biology for Biomedical Engineers; 3 credits; 14 graduate students

NATS 104 Biology in Medicine, Engineering and Applied Sciences. Co-coordinator and lecturer, 3 credits; 35 undergraduates

Lecturer, BME 411/511: Physiology for Engineers; 3 credits; 13 graduate students; 5 undergraduate students

Session Facilitator, PSIO 602: Readings in Systems Physiology, Cardiovascular Physiology section; 1 credit; 8 graduate students

Lecturer, BME 510: Biology for Biomedical Engineers; 3 credits; 12 graduate students

Teaching Experience 1978 to 1998

Lecturer in Histology University of Delaware

Lecturer in Endothelial cell pathology Yale School of Medicine

Lecturer in Human Physiology Jefferson Medical College

Lecturer in Human Physiology University of Arizona School of Medicine

Lecturer in Surgery, University of Arizona School of Medicine

Course Development

NATS 104 Biology in Medicine, Engineering and Applied Sciences. Co-coordinator and lecturer

BME 410/510, Biology for Biomedical Engineering; Assisted in the development of course syllabus and reading materials

BME 411/511, Physiology for Biomedical Engineering, Assisted in the development of course syllabus and reading materials

BME 595A, Co-developed course syllabus and reading lists

BME 597, Research Methods in Biomedical Engineering, Re-designed lab rotation format and reporting

Biomedical Engineering – University of Arizona. Established the BME program at the University of Arizona in 1996. Prepared curriculum and all documentation for this program. Submitted to and gained approval from the Arizona Board of Regents for the program.

Journal Clubs and Discussion Groups

2009-present Co-coordinator; CII Regenerative Medicine Journal Club

2004-2007 Faculty Advisor; Cardiovascular Engineering Journal Club

1998-2007 Co-coordinator;Vascular Research Group; Faculty, Fellows, Post-Docs, Graduate Students, Undergraduate Students

Graduate Students (Mentor): **Present Position**

Maria Rupnick, M.D., Ph.D. Instructor in Medicine, Brigham & Women’s Hospital,

Internal Medicine, Harvard School of Medicine

Dissertation: The Study of Microvessel Endothelial Cell Migration in Vitro, 1988

Lisa Speicher, Ph.D. Senior Scientist, Schering Plough, Philadelphia, PA

Dissertation: Effects of Shear Stress on Leukocyte-Endothelial Cell Interactions

Kerri Pratt, Ph.D. Assistant Professor, Thomas Jefferson University,

Philadelphia, PA

Dissertation: The Effects of Hyperglycemia on Human Endothelial Cell Cytoskeletal Function, 1990

James B. Hoying, Ph.D. Professor, University of Louisville, Division

Head, Cardiovascular Innovation Institute,

Louisville, KY

Dissertation: Cell-Matrix Interactions of Microvessel Endothelial Cells in Response to Basic

Fibroblast Growth Factor, 1994

Dennis Salzmann, Ph.D. Director of Regulatory Affairs, Bard Peripheral Vascular,

Inc. Tempe AZ. 85280

Dissertation: Macrophage Response to Polymeric Vascular Grafts, 1997

Lloyd Williams, M.D. Resident, Tufts University School of Medicine

Boston, MA

Daniel Hagerty, M.S., M.D. Emergency Medicine Physician, Spokane, WA

Robert Kellar, Ph.D. President, Design Engineering Sciences, Flagstaff, AZ

Dissertation: Tissue-Engineered Polymers Stimulate Angiogenesis in Infarcted Myocardium, 2001

Donny Dal Ponte, Ph.D. Faculty, Pima Community College, Tucson, AZ

Dissertation: Intimal responses associated with synthetic vascular implants, 2001

Kameha Kidd, Ph.D. Staff Scientist, National Institutes of Health, Bethesda, MD

Dissertation: Angiogenesis and Neovascularization in Association with Extracellular Matrix

Protein Modified Biomaterials, 2002

Ben Shepherd Senior Scientist, Organovo, San Diego, CA

Dissertation: Implantation and Characterization of Tissue Engineered Microvascular Grafts, 2004

Paul Rigby Staff Scientist Telios, San Diego, CA

Dissertation: Characterization of Arteries and Tissue Engineered Vascular Grafts Using Experimental and Finite Element Models

Samantha Powis Product Specialist, W.L. Gore, Flagstaff, AZ

Dissertation: Chlorine Dioxide for the Prevention of Biomaterial-Associated Infections, 2005

Cindy Smith Consultant, n-Script,

Dissertation: A Direct-Write Three-Dimensional BioAssembly Tool for Regenerative Medicine, 2005

Mark Schwartz Research Scientist, High Throughput Genomics, Tucson, AZ

Dissertation: Molecular and Cellular Dynamics of the Healing Response Associated with Implanted Expanded Polytetrafluoroethylene, 2005

Kristen O’Halloran Associatet Professor, Cal Poly, San Louis Obispo

Dissertation: Development and Utilization of a Tissue Engineered Blood Vessel Mimic to Assess the Neointimal Response to Intravascular Stents

Alton Hiscox Research Principal Scientist, Prolx, Tucson, AZ

Dissertation: Development, Characterization, and Assessment of a Tissue- Engineered Prevascularized Pancreatic Islet Encapsulation Device

Medical Students: (6 week to one year research projects)

Karen Baker Andrew Bauer Keith Butler Bradford Carter

David Carter Wen Chao Lynn Chen Steve Daily

Amy Erb Gregory Famiglio Nancy Kim Tom Londergan

John Magee Crawford Mechem Johnathen Pontell Rick Roberts

Jussi Saukonen, Jr. Rob Sigal Nina Solenski Lynn Soloman

Mark Yakamura Mark Zelkovic

Student Research Honors:

Karen Baker: 1985, Peter B. Samuels Prize, assay for research by a medical student,

The Society of Vascular Surgeons

Maria Rupnick: 1988, Outstanding Research Project, Sigma Xi

Kerri Pratt: 1988, Outstanding Research Project, Sigma Xi

Steve Dailey: 1991, Allastair B. Karmody Award for research by a medical student,

The Society for Clinical Vascular Surgery

James Hoying: 1995, Instrumentation Award, Microcirculatory Society

1994, Proctor and Gamble Professional Graduate Student Opportunity

Award, American Physiological Society

1992-1994, Predoctoral trainee, National Heart, Lung and Blood Training

Grant

1993-1994, Physiological Sciences Scholarship Award, University of

Arizona

1992, 1993, Who's Who in Science and Engineering

1992, Research Award, Sigma Xi

1991, Physiological Society of Philadelphia Poster Competition,

First place winner in Technical Staff Division

Mark S. Sarfati: 1994, Chairman's Prize, "Best Presentation", 6th Annual Resident

Research Symposium, Department of Surgery, University of

Arizona

Kenneth A. Fox: 1995, 2nd place, 7th Annual Resident Research Symposium,

Department of Surgery, University of Arizona

Dennis Salzmann: 1996-1998, Predoctoral Fellowship Award, American Heart Association,

Arizona Affiliate

Donny Dal Ponte: 1998, Young Investigator’s Award, International Society for Applied

Cardiovascular Biology

Rob Kellar: 1999-2000, Predoctoral Fellowship Award, American Heart Association,

Arizona Affiliate

2001, Jay N. Cohn Clinical/Integrative Physiology New

Investigator Award, Heart Failure Society

Kameha Kidd: 1999, Finalist 1999 SkiView Business Plans Competition, The University

of Arizona Berger Entrepreneurship Program

1999, Honorable Mention-Graduate Division, Entrepreneurship

Intercollegiate Competition

1999-2001, Predoctoral Fellowship Award, American Heart Association,

Arizona Affiliate

2001**,** David J. Lee Student Award for Excellence in Student Research,

Surfaces in Biomaterials Foundation

Ben Shepherd: 2000-2002, Predoctoral Fellowship Award, American Heart Association,

Arizona Affiliate

Samantha Powis: 2003-2004, Institute for Biomedical Science and Biotechnology Graduate

Student Fellowship

Kristen O'Halloran: 2004, National Science Foundation Graduate Research Fellowship

2005, Society for Biomaterials Student Travel & Professional

Development Award

Residents:

John Radomski, M.D. 1985-1986 Karl Ahlswede, M.D. 1990-1991

F. Allan Hubbard, M.D. 1986-1987 Carlton Young, M.D. 1990-1991

John R. Hoch, M.D. 1987-1988 Mark Sarfati, M.D. 1992-1994

Thomas Carter, M.D. 1988-1989 Kenneth A. Fox, M.D. 1993-1995

Audrey Park, M.D. 1989-1990 Jonathan Maijub 2012 - present

Preceptor Advisor:

Mark Sarfati, M.D. 1992-1994

John A. Daller, M.D. 1992-1994

Bryan J. Venerus, M.D. 1992-1994

Post-Doctoral Fellows:

Mercedes Rivero-Hudec, Ph.D. 1989-1991

Shih-Chieh Chen, Ph.D. 1991-1993

Jolyon Schilling, M.D. 1992-1993

Scott Berman, M.D. 1992-1993

Luke Erdoes, M.D. 1993-1994

John Marek, M.D. 1994-1995

Stephani Boykin, Ph.D. 1996-1997

Alex Westerband, M.D. 1996-1997

Amanda LeBlanc, Ph.D. 2009 – 2011

Laxmi Krishnan, Ph.D. 2009 – 2011

Undergraduate Student Research Projects:

Robert Castrillo 1992-1993

Richard Langford 1992-1993

Anthony Paul 1993 (Project Access)

Richard Ashley 1996

Jane Kim 1997 (Osler Summer Science Program for HS Students)

Jeff Kersten 1997

Jia Lia 1997

Tulshi Bhattacharyya 1998 (Osler Summer Science Program for HS Students)

Lisa Levy 1998 (Undergraduate Biology Research Program)

Despina Tavalarides 1998-00 (Undergraduate Biology Research Program)

MEDCAMP Job Shadow 1998 (2 high school students)

MEDCAMP 1999 (3 presentations, 15 High School Students/presentation)

Matt Aldridge 1999 (University High)

Nealda Muhammad Yusof 2000 (University of Singapore)

JoAnn Chang 2000-01 (Undergraduate Biology Research Program)

Alex St. John 2001-02 (University High)

Anne Williams 2001-02 (Senior Design Project)

Niral Patel 2002 (Biochemistry Honors Project)

Tristen LeMunyon 2012 Bioengineering Co-Op

Faculty Mentor:

Bala Appakalai, Ph.D.

Marvin Morris, M.D.

Alison Stopeck, M.D.

W. Bradford Carter, M.D.

Lorraine H. Manciet, Ph.D.

Hunter Wessells, M.D.

David Arzouman, M.D.

Julie Zaetta, M.D.

Rob Noecker, M.D.

Linda Meade-Tollin, Ph.D.

Dan Stamer, Ph.D.

John Nichols, M.D.

**GRANTS AND CONTRACTS:**

**A: ACTIVE SUPPORT:**

Improving Coronary Microcirculation in Advanced Age through Cell-based Therapy, American Heart Association, Role: Collaborating Investigator. Principal Investigator, Amanda LeBlanc, 1/1/2012-12/31/2015, $132,000

Microvascular Repair using Adipose-Derived Stromal Vascular Fraction Cells,

American Heart Association, Scientist Development Grant, Role: Collaborating Investigator, PI, Nolan Boyd, $308,000, July 1, 2011 – July 1, 2015

Autologous Cell-Based Implantable Apheresis Device for Real-Time LDL-c

Clearance Pilot Study, Kosair Charities Pediatric Heart Research Pilot Grant, Role: Collaborating Investigator PI Nolan Boyd, $47, 154, June 1, 2011 – June 1, 2015

Basic Science Studies to Increase Safety of Hand Transplantation for Congenital Defects and Traumatic Limb Loss in Pediatric Recipients. Kosair Charities Role: Collaborating Investigator, PI James B Hoying 21/1/2012 to 11/30/2015 $64,138.

Magnetic Flow Sorter for Pancreatic Islet Isolation. NIH/SBIR. Role: 10% Principal Investigator of University of Louisville subcontract. Primary Award – TechShot, Greenville, Indiana

Human Microvessel Culture System NIH STTR Role: PI of subcontract University of Louisville. PI: James Hoying, Ph.D. Angiomics, Inc.

Positioning Vascularized Composite Allotransplantation with the Spectrum of Transplantation. Department of Defense. W81XWH-12-PRMRP-CTA Role: Co-investigator PI: Joseph Kutz 1/1/2013- 12/31/17 2.40 calendar Dept. of the Army – USAMRAA $3,282,264

Immunomodulation and Tolerance Induction in Hand Transplant Recipients using Adipose SVF cells W81XWH-13-AFIRM-IIRP Role: Co-investigator PI: Joseph Kutz 7/1/2013 – 6/30/2018 1.2 calendar AFIRM II – Department of Defense $1,569,668.

A Randomized, Controlled, Parallel Group, Blinded Feasibility Study of the TGI Adipose-derived Stromal Cell (ASC)-coated ePTFE Vascular Graft for Femoral-tibial Bypass Grafting, Tissue Genesis Inc., Role: Co-Investigator; Principal Investigator, Michael Marvin, M.D.

**B. IN PREPARATION/PROPOSED/SUBMITTED**

Autologous Cell Based Implantable Apheresis Device for Continuous LDLc Clearance. NIH. Role: Co-investigator. Principal Investigator Nolan Boyd.

Regenerative Cell Therapy for Coronary Microvascular Dysfunction in Aged Females, NIH, Role; Co-Investigator, Principal Investigator, Amanda LeBlanc, Ph.D.

Humanized Microvascular Preclinical Assay NIH. Role: Principal Investigator of subcontract to University of Louisville. PI; James Hoying.

Blood Vessel Mimics for Discovery of Predictive Markers Presymptomatic Diagnosis of Hemorrhagic Fever Virus Infections, NIH, 10%, Co-Principal Investigator

Adipose Regenerative Cells for Treatment of Ischemia, NIH, Principal Investigator

Bioassembly Tool for Spatial Organization of Human 3D Implants, NIH, 20%, Principal Investigator

Development of Inflammation Imaging Ultrasound Contrast Agents, KyPha, 2%, Principal Investigator

Three-Dimensional Heart Patch for Ischemic Myocardium, NIH, 20%, Principal Investigator

**C. COMPLETED**

Gheens Foundation Research in Regenerative Medicine

This is an award from the Gheens Foundation to support research in Regenerative Medicine. Role: Principal Investigator. $250,000.

Manufacturing Development of Allogeneic Stem Cells in Clinical Settings. Department of Defense contract number W81XWH-11-C-0017. Role: Principal Investigator of Subcontract with University of Louisville. 12/1/2012 to 12/31/2014. $63,970

Acute Evaluation of the M4 Delivery System in an Ovine Model, Bolton Medical, 2%, Role: Principal Investigator, 7/1/12-12/28/13, $76,767

Upgrade and Expansion of Cardiovascular Facilities – Cardiovascular Innovation Institute HRSA, 1 C76HF09473-01-00. Role: Grant Proposal Author, Project and Financial Management and Oversight. 9/1/2008 – 9/30/2013. $5,988,824.

Nanocomposite Imaging System for Choroidal Neovascularization, Kentucky Pharmaceuticals/NIH, 2%, Role: Principal Investigator of subcontract, 7/1/2012-6/30/2013 $61,757

A Prevascularized Islet Immuno-Isolation Device, NIH, 20%, Role: Principal Investigator,

4/08-3/31/13, 7/11/2011-6/30/2013, $314,500

Validation of a Straight AV Graft, Atrium Medical, Inc, 3%, Principal Investigator Preclinical services for the Development of Biopharmaceutical Products of Infectious Diseases, DTRA, 10%, Co-principal Investigator

Blood Vessel Mimics as an in Vitro Aneurysm Models for Evaluation of Endovascular Devices, ARDF, 1%, Principal Investigator 6/1/11-5/31/2012, $37,500

Medical Device Testing in Human Blood Vessel Mimics, Alternatives Research & Development Foundation, 1%, Principal Investigator, 6/1/10-5/31/2011, $37,500

Protocol Development for Cell Characterization Study, TGI, Principal Investigator

Bioprinting with Cells from Adipose Stromal Vascular Fraction, Organovo, Inc,, 2%, Principal Investigator, 9/1/2010-2/28/2011, $31,114

Medical Device Testing in Human Blood Vessel Mimics, Alternatives Research & Development Foundation, 10%, 6/1/2010-5/31/2011, $39,653

Fabricated Microvascular Networks, NIH, 15%, Co-Principal Investigator, 7/12/07 –

4/30/2011 $930,000

Bioprinting with Cells from Adipose Stromal Vascular Fraction, Organovo, Inc,, 2%, Principal Investigator, 9/01/10 - 2/28/2011, $31,114

An ExVivo Shunt Model to Evaluate Thrombogenicity of Abbott Stents in a Porcine Model, Abbott Vascular, 2%, Principal Investigator

Percutaneous Delivery of Adipose Derived Therapeutic Cells, Tissue Genesis, 3%, Principal Investigator, 10/10/07 - 12/31/10, $409,337,

Endothelialized Vascular Graft Research Program, Tissue Genesis, 10%, Principal Investigator, 8/1/2007 - 12/31/2010 $182,222,

Automated Cell Isolation and Sodding System for Peripheral Vascular Grafts, Tissue Genesis, 10% , Principal Investigator, 11/12/07 - 12/31/10, $390,000,

Acute Evaluation of a Bifurcated Stent Graft in a Porcine Model, Bolton Medical, Inc,, 5%, 10/20/09 - 11/20/09 $16,440

GLP Chronic Evaluation of a Stent Graft in an Ovine Model, Industry 3%, 7/1/09 – 3/30/10, $256,219

Evaluation of Manufactured Collagen Coated Stents, Surmodics, Principal Investigator, 5%, 4/15/09-8/15/09 $78,751

Ex Vivo Shunt to Evaluate the Relative Thrombogenicity of Coated Materials in the Pig Femoral Model, Surmodics, Principal Investigator, 5%, 4/1/08 - 6/30/08 $47,728

Percutaneous Delivery of Adipose Derived Therapeutic Cells, US Army Medical Research &

Material, Principal Investigator of Consortium, 5%, 5/1/08 - 11/30/09, $265,000

(DC), 10/10/07 - 12/31/09

Endothelialized Vascular Graft Research Program, US Army Medical Research & Materiel,

Principal Investigator of Consortium, 5%, Principal Investigator-Paul Kosnik,

Tissue Genesis, 7/1/05- 12/31/09

Automated Cell Isolation and Sodding System for Peripheral Vascular Grafts, US Army Medical Research & Materiel, Principal Investigator of Consortium, 5%, 5/1/06 - 6/30/09

In Vivo Chronic Evaluation of the Histopathologic Response in Rabbit Iliac Model after stenting using finale extracellular matrix coating and a bare metal system that have been sterilized by either e-beam or ETO, Surmodics, 5%, Principal Investigator, $60,084

Cardiovascular Biomedical Engineering Training Grant, NIH/NRSA, Program Director, 5%, 7/1/01 - 6/30/11, 1,400,000 (DC)

Sheep model to assess pannus overgrowth associated with valve material, ValveXchange (sub-

federal), Study Director, Research Consortium, 1%, 12/19/08 - 12/31/09, $38,000 (DC),

Acute Evaluation of a Stent graft in an Ovine Model, Bolton Medical Inc, Principal Investigator, 2%, 7/1/09 - 8/31/09, $26,111

Tissue Engineered Grafts Implanted in the Canine Carotid Model, Tissue Genesis, Study

Director, 5%, 9/1/05 - 12/31/08, $154,000 (DC)

Evaluation of the Short Term Outcomes of Sodded Grafts in a Canine Model, Surpass, 25%, Principal Investigator, 8/14/08 - 10/31/08 $118,540

Bioactive Polymer for Cardiac, ABIOMED Bioactive, Principal Investigator, 10/1/2004 - 8/31/2008

Graduate Training in Physiology, NIH, 5 T32 HL07249-17, Mentor, 1%, Principal

Investigator-Janice Burt, Ph,D, 6/03 - 5/08, $1,364,269

Porcine Ex-Vivo Shunt Study, Surmodics, Principal Investigator, 1%, 6/15/07 - 8/15/07, $29,610

Graduate Training in Systems and Integrative Physiology, NIH 5 T32 GMO8400, Mentor, 1%, Principal Investigator-William H, Dantzler, M,D,, Ph,D,, 7/01 - 6/06, $274,473 (DC)

SensateScaffold for Orthopedic Tissue Repair, NIH, Consultant, 3%, Principal Investigator-

John Szivek, Ph,D,, 9/30/02 – 9/29/06, $225,000 (DC),

Transportable Chlorine Dioxide Sterilization System, NIH/STTR, 15%, Principal Investigator,

09/04 - 9/07, $93,450 (DC),

Prevascularized Immuno-Isolation Device, Juvenile Diabetes Research Foundation, 5%, Principal Investigator,10/1/05 - 9/30/07, $100,000 (DC),

In Vivo Chronic Eval of the Histopathologic Response Using Coated Materials in the Rabbit lliac Model, Surmodics, 1%, Principal Investigator, 6/15/07 - 9/30/07, $56,070

Biodegradable Sealant for Biopsy Tract in Soft Tissue, NIH STTR, 5%, Co-Investigator, Principal Investigator-Lucjan Hronowski (Biopsy Sciences), 6/1/05 - 5/30/07, $75,000 (DC),

Animal Study Evaluating Guidant Stents, Guidant Corporation, 1%, Study Director, 8/1/05 - 7/31/07, $109,000 (DC),

Short-term wound healing response of Atrium C-Qur barrier mesh, Atrium, 2%, Study Director, 11/1/05 - 1/31/06, $30,000 (DC),

A study evaluating the in-vivo performance of Atrium hernia repair material in the rat model, Atrium, 1%, Study Director, 9/15/05 - 3/15/06, $24,000 (DC),

An Ex-vivo shunt model to evaluate thrombogenicity in a porcine model, Advanced Cardiovascular Systems/Guidant, 1%, Study Director, 2/1/06 - 3/31/06, $18,000 (DC),

Short-term wound healing response of Atrium alpha coated mesh, Atrium, 1%, Study Director, 11/1/05 - 2/15/06, $13,000 (DC),

Evaluation of Tissue Response to Control and Coated Stents in a Blood Vessel Mimic, Guidant Corporation, 1%, Study Director, 8/1/05 - 3/31/06, $19,000 (DC),

Evaluation of histology from hernia patch rabbit study, Atrium, 1%, Study Director, 4/25/05 - 12/15/05, $11,000 (DC),

Gene Therapy of Diabetic Penile Endothelial Dysfunction, NIH, Consultant, 1%, Principal Investigator-Hunter Wessells, M,D,, 9/1/00 - 8/31/05, $750,000 (DC),

Role of Laminin-5 in Implant Associated Angiogenesis, NIH, 30%, Principal Investigator, 8/1/00 - 7/31/04 (NCX to 7/31/05), $800,000 (DC),

Pre-clinical Study Evaluating the Bolton Stent Graft in an Ovine Model, Bolton Medical, 1%, Principal Investigator, 4/1/04 - 3/31/05, $100,000 (DC),

Treatment of Type 1 Diabetes through Beta-Cell Replacement Therapy, University of Arizona Department of Pediatrics, 1%, Co-investigator, 7/1/04 - 6/30/05, $100,000 (DC),

Biocompatibility of Atrium Hernia Patch in the Rat Model, Atrium Medical, 1% Study Director, 8/1/04 - 4/30/05, $32,500 (DC),

A Study Evaluating the Inflammation and Healing Response of PEA-BENZYL and PEA-TEMPO in a Subcutaneous Rat Model, Advanced Cardiovascular Systems, 1%, Principal Investigator, 5/1/04 - 8/31/04, $7,300 (DC),

A Study Evaluating Healing Characteristics Associated with Guidant PEA-BENZYL and PEA-TEMPO Polymers on the Epicardial Surface, Advanced Cardiovascular Systems, 1%, Principal Investigator, 5/1/04 - 10/31/04, $23,250,

A Study Evaluating the In-vivo Performance of Atrium anti-adhesive Technologies on Hernia Repair Material in the Rat Model, Atrium Medical, 1%, Principal Investigator, 11/10/03 - 4/15/04, $20,000 (DC),

A Study Evaluating the Healing response Associated with Atrium Materials, Atrium Medical, 1%, Principal Investigator, 11/10/03 - 4/15/04, $16,000 (DC),

Characterization of Arterial Ring Model for Drug Screening Purposes, Advanced Cardiovascular Systems, Guidant Corp, 1%, Principal Investigator, 11/10/03 - 1/31/04, $23,000 (DC)

Pericardial Tissue Implanted Subcutaneous in the Rat Model, Southwest Research Institute, 1%, Principal Investigator, 11/10/03 - 2/10/04,

Poroelastic Transport of Neutral and Charged Species in Arterial Tissue, National Science Foundation, Co-Investigator, 10%, Principal Investigator-Bruce Simon, Ph,D,, 8/98 - 7/03,

$250,096 (DC),

Vascular Characterization with Optical Low-Coherence Techniques, National Science Foundation, Collaborator, Principal Investigator-Jennifer Barton, 8/1/99 - 7/31/03, $185,900,

Clinical Oncology Research Training Program, NIH, CA-01-32, Program Faculty Member, ,01%, Principal Investigator-Evan M, Hersh, M,D,, 7/98 - 6/03, $1,707,805,

Antimicrobial Coating for Implantable Devices, NIH STTR, 15%, Principal Investigator, 9/1/00 - 8/31/03, $98,000 (DC),

Evaluation of Local Therapy to Limit Vascular Graft Hyperplasia, NIH, Principal Investigator of Consortium, 5%, Principal Investigator- Steven Massia, Ph,D,, Arizona State University, 12/1/98 - 6/03, $173,265 (DC),

A Study Evaluating the Atrium® T-graft in a Canine AVG Model, Atrium Medical, 1%, Principal Investigator, 1/3/03 - 4/30/03, $26,416 (DC),

Pre-Clinical Study Evaluating the Medtronic Stent Graft in an Ovine Model, Medtronic AVE, Inc,, 1%, Principal Investigator, 1/15/02 -1/14/03, $88,560 (DC),

Feasibility Study Evaluating the Use of Anginera as an Epicardial Implant to Attenuate a Loss of Left Ventricular Function in a Porcine Model of LAD Occlusion, Advanced Tissue Sciences, 2%, Principal Investigator, 2/1/02 - 07/01/02, $84,000 (DC),

Tissue Engineering of an Ischemic Repair Device for Cardiovascular and Other Therapies, NIST, Principal Investigator, Univ of AZ subcontract, 10%, Principal Investigator-Tony Ratcliffe (Advanced Tissues Sciences), 1/1/02 - 10/31/03, $40,000 (DC),

Tissue Engineered Constructs for Repair of Ischemic Tissue, DARPA, Sciperio (prime), UA (sub), 1%, Principal Investigator of AZ subcontract, 8/1/01 - 1/31/03, $127,000 (DC),

Effect of Anti-angiogenic Treatment on Ligament Healing, Aircast Foundation, University of Utah (prime), Jeffrey Weiss-Principal Investigator, UA (sub), 2%, Co-Investigator of AZ subcontract, 12/00 - 12/02, $17,900,

Development and Use of a Telemetrized CPC Coated Strain Gauge System for Advancing Fundamental Knowledge of Bone Strain in Animals and Humans, National Science Foundation, Consultant, Principal Investigator-John Szivek, Ph,D,, 6/1/98 - 5/30/02, $213,000,

The Role of Alpha 6 Beta 4 Integrin in Angiogenesis, AHA, Desert/Mountain Affiliate Predoctoral Fellowship, Consultant, 1%, Principal Investigator-Kameha Kidd, 7/1/00 - 6/30/02, $36,000,

Ocular Shunt for Glaucoma Treatment, Atrium Medical Corp, Principal Investigator, 3/00 - 5/02, 63,975 (DC),

Prostate Carcinoma--Invasion and Metastasis Factors: Core Component B, Microscopy and Morphometrics, NIH Program Project, Core Leader, 10%, Principal Investigator-Raymond Nagle, M,D,, Ph,D,, 4/1/98 - 3/31/02, $396,564 (DC),

Effect of Fluid Flow and Pressure on Endothelial Cells of the Aqueous Outflow Pathway, University of Arizona Dean’s Research Council Grant, Mentor, Principal Investigator-Dan Stamer, 7/1/00 - 6/30/01, $15,000,

Safety of Hypothermosol for Intra-cardic Injection, Bioheart, 1%, Principal Investigator, 7/01 - 10/01, $6,400 (DC),

A Study Evaluating the Advanced Tissue Sciences, Inc, Tissue Engineered Graft in a Canine Model, Advanced Tissue Sciences, Inc,, Principal Investigator, 5%, 1/15/01 - 6/30/01, $55,860 (DC),

An Ex Vivo Shunt Model to Evaluate the Advanced Tissue Sciences, Inc, Tissue Engineered ePTFE Scaffold in a Canine Model, Advanced Tissue Sciences, Inc,, 5% Principal Investigator, 1/01 - 6/30/01, $15,380 (DC),

Cell Retention/Distribution in Normal and Infarcted Pig Myocardium, Bioheart, 5%, Principal Investigator, 2/22/01 - 6/30/01, $19,000 (DC),

A Study Evaluating the Functional Response Associated with Advanced Tissue Sciences, Inc, Tissue-Engineered Constructs Using a SCID Mouse Model of Ischemic Injury, Advanced Tissue Sciences, 1%, Principal Investigator, 2/01 - 7/01, $28,600 (DC),

Improved Extracellular Matrix for Treatment of Tobacco Related Occlusive Vascular Disease, Arizona Disease Control Research Commission, 10%, Co-Principal Investigator, 7/1/98 - 6/30/01, $315,300 (DC),

Biomedical Engineering Program in Imaging, Modeling and Evaluation of Medical Implants: Cooperative Academic-Industrial Program, The Whitaker Foundation Special Opportunity Awards in Biomedical Engineering, Program Director, 6/97 - 5/01, $2,064,000 (DC),

Feasibility Study Evaluating Dermagraft as a Cardiac Patch in a Porcine Model, Advanced Tissue Sciences, Inc, 5%, Principal Investigator, 10/00 - 2/01, $57,000 (DC),

Pre-clinical Study Evaluating the Medtronic Generation II AnueRx Stent Graft in an Ovine Model, Medtronics AVE, Principal Investigator, 5/1/00 - 2/1/01, $43,230 (DC),

Tissue Engineered Heart Valves, University of Arizona Dean’s Physician-Scientist Career Development Award, Mentor, Principal Investigator-David Arzouman, 7/1/98 - 6/30/00, $103,750,

A 30 Day Study Evaluating the Advanced Tissue, Inc, Matrix Vascular Graft, Advanced Tissue Sciences, Study Director, 4/3/00 - 8/31/00, $54,580 (DC),

Cadherin Regulation and Function in Vascular Smooth Muscle, American Heart Association, National, Consultant, 5%, Principal Investigator-Ronald L, Heimark, Ph,D,, 1/1/98 - 12/31/00, $150,000 (DC),

Pre-Clinical Study Evaluating the Medtronic Next Generation Stent Graft in a Canine Model, Medtronic AVE, Principal Investigator, 3/15/00 - 8/15/00, $45,300 (DC),

A Study Evaluating Atrium Soft-Tissue Replacement Materials as Subcutaneous Implants in a Porcine Model, Atrium Medical Corp,, Principal Investigator, 6/99 - 8/00, $52,500 (DC),

The Coordinate Expression of VEGF and BFGF Modulate the Angiogenic Response in Tissues Around Epicardial Implants, AHA, Desert/Mountain Affiliate Predoctoral Fellowship, Sponsor, 1%, Principal Investigator-Robbie Kellar, 7/1/1999 - 6/30/2000, $18,000,

A Study Evaluating the Atrium ePTFE Patch for Repair of Abdominal Wall Defects in the Rat, Atrium Medical Corp, Principal Investigator, 10/99 - 1/00, $11,560 (DC),

Stent Versus Endovascular Graft Healing in Atherosclerotic Yucatan Microswine Iliac Arteries, W,L, Gore and Associates, Co-Investigator, 5%, Principal Investigator - Julie Zaetta, M,D,, 7/1/98 - 12/31/99, $15,550 (DC),

A Study Evaluating the Healing Response Associated with Advanced Tissue Sciences, Inc, Dermagraft Material for Use as an Epicardial Patch in a Porcine Model, Advanced Tissue Sciences, Inc,, Principal Investigator, 10/99 - 2/00, $20,440 (DC),

Stent Versus Endovascular Graft Healing in Atherosclerotic Yucatan Microswine Iliac Arteries, Cardiovascular and Interventional Radiology Research and Education Foundation, Co-Investigator, 5%, Principal Investigator - Julie Zaetta, M,D,, 7/1/98 - 12/31/99, $25,000 (DC),

Stent Versus Endovascular Graft Healing in Atherosclerotic Yucatan Microswine Iliac Arteries, University of Arizona Dean’s Research Council Award, Co-Investigator, 5%, Principal Investigator - Julie Zaetta, M,D,, 7/1/98 - 6/30/99, $15,000 (DC),

A Mouse Model for Evaluation of the Healing Response Associated with Advanced Tissue Sciences, Inc, Dermagraft® Materials for Use as an Epicardial Patch, Advanced Tissue Sciences, Principal Investigator, 7/1/99 - 12/31/99, $25,936 (DC),

A Study Evaluating the Healing Response Associated with the Advanced Tissue Sciences, Inc, Dermagraft® Materials for use as a Peripheral Ischemia Angiogenesis Patch, Advanced Tissue Sciences, Principal Investigator, 8/30/99 - 2/29/00, $22,370 (DC),

A Safety and Efficacy Study Evaluating the World Medical Endoluminal Stent Graft in the Thoracic Aorta of Swine, World Medical Manufacturing, 1%, Principal Investigator, 2/1/99 - 6/15/99, $44,324,

A Study Evaluating and Comparing the Healing Response of Various World Medical Graft Materials, World Medical Manufacturing, 10%, Principal Investigator, 1/5/99 - 3/31/99, $8,420,

Endothelial Cell Based Gene Therapy to Correct Erectile Dysfunction, University of Arizona Dean’s Physician-Scientist Career Development Award, Mentor, Principal Investigator-Hunter Wessells, 7/1/97 - 6/30/99, $103,750,

Evaluation of the Sarns 3-M Bioactive Surface Heparin Bonded CPB Circuit in a Porcine Model, 3-M, Collaborating Investigator, Principal Investigator-Doug Larson, Ph,D,, $60,000,

Atrium® Hybrid PTFE™ Clinical Study, Atrium Medical Corporation, Co-Principal Investigator with Joseph Mills, 1/1/96 - 12/31/98, $7,500,

Endothelial Cell Transplantation and AV Graft Healing, NIH, 1RO1 DK45670, 15 %, Principal Investigator, 1/95 - 12/98, $334,094 (DC),

A Study Evaluating the Advanced Tissue Sciences, Inc, Tissue Engineered Vascular Graft in a Canine Model, Advanced Tissue Sciences, Principal Investigator, 12/1/97 - 6/1/98, $10,000 (DC)

An Ex Vivo Shunt Model to Evaluate the Advanced Tissue Sciences, Inc, Matrix Vascular Graft in a Canine Model, Advanced Tissue Sciences, Principal Investigator, 12/1/97 - 6/1/98, $9,200 (DC),

Pre-Clinical Study Evaluating the World Medical Endoluminal Stent Graft in a Canine Model, World Medical Corporation, Principal Investigator, 7/1/97 - 6/30/98, $83,351 (DC),

A Study Evaluating the Healing Response of Various Impra ePTFE Graft Materials, Impra, Inc, Principal Investigator, 7/1/98 - 10/31/98, $11,828 (DC),

Smoking and Pericytes: Their Role in Angiogenesis, AZ Disease Control, Contract #9609, Consultant, 5%, Principal Investigator-Ronald L, Heimark, Ph,D,, 8/1/95 - 6/30/98, $91,443 (DC),

Tissue Engineered Coronary Artery Bypass Grafts, American Heart Association, AZ Affiliate, Principal Investigator, 10%, 7/1/96 - 6/98, $60,000 (DC),

A Study Evaluating the VCS Clip Applier System with ePTFE Graft Material in a Canine AVG Model, United States Surgical Corp, Principal Investigator, 9/97 - 2/98, $15,900 (DC),

A Study Evaluating the Healing Response in Rats to Monsanto Graft Material, Monsanto, Principal Investigator, 7/1/97 - 10/31/97, $17,880 (DC),

A Study Evaluating the Atrium® Hybrid ePTFE Graft in a Canine AVG Model, Atrium Medical Corporation, Principal Investigator, 5/97 - 8/30/97, $8,880 (DC),

A Study Evaluating the Effect of Fragmin™ Low Molecular Weight Heparin on the Inflammatory Response Observed in Association with Polymeric Medical Implants, Upjohn & Pharmacia, Principal Investigator, 9/96 - 12/96, $7,234 (DC),

Nonenzymatic Glycation in Diabetic Kidney Diseases, NIH, DK 5 R01 43620, Principal Investigator, 10% effort, 4/1/91 - 3/31/97, $422,500 (DC),

Endothelial Cell Sodding of Endovascular Grafts, American Heart Association, 95-STIP-3, Sponsor, 5% effort, Principal Investigator-Dennis Salzmann, 7/1/95 - 12/31/96, $5,000 (DC),

The Coronary Microcirculation in Myocardial Protection, NIH, 1 RO1 HL49230-01A1, Co-Investigator, 5% effort, Principal Investigator-Paul F, McDonagh, Ph,D, 9/93 - 8/96, $325,785 (DC),

Endothelial Cell Sodding of Coronary Artery Bypass Grafts, American Heart Association, AZ Affiliate, AZ-94-GS-14/AZGS-26-95, Principal Investigator, 10% effort, 7/01/94 - 6/30/96, $48,874 (DC),

Vascular Anomalies in Diabetic Rats after Heart Surgery, NIH, 5 K14 HL03151, Primary Sponsor, 5% effort, Principal Investigator-Lorraine H, Manciet, Ph,D,, 7/01/94 - 6/30/96, $409,943 (DC).

Vascular Graft Coating for Transmural Endothelialization, NIH SBIR, Subcontractor, Principal Investigator-David L, Clapper, Ph,D,, 3/95 - 11/95, $68,472 (DC).

Microvascular Endothelial Cell Sodding of ePTFE Hemodialysis Vascular Access Graft: A Prospective, Randomized Comparison, Dialysis Clinics Inc, JCVRDF-1092-6, Co-Principal Investigator, 10% effort, Principal Investigator-Bruce E, Jarrell, M,D,, 12/01/92 - 11/30/95, $76,725 (DC).

Genetic Engineering Using Microvascular Endothelial Cells, Arizona Elk's Research Grant, 5% effort, Principal Investigator, 7/01/94 - 6/30/95, $19,942 (DC),

Quantitative Assessment of Attachment and Growth of Endothelial Cells on Biodegradable Polymeric Substrates, American Heart Association, Consultant, 1% effort, Principal Investigator-Scott S, Berman, M,D,, 7/01/93 - 6/30/95, $50,000 (DC).

Human Endothelial Cell Interaction with Native Surfaces, NIH, 5R01 HL 38103, Principal Investigator, 1988 - 1991, $450,000.

Proliferation and Function in Human Endothelial Cells, NIH, R01-HL34153, Co-Principal Investigator with Elliott Levine, Ph,D,, 1986 - 1991, $997,393.

Analysis of Microvessel Endothelial Cell Migration, NIH, 1R01 GM 41476, Principal Investigator-Douglas A, Lauffenburger, Ph,D,, 1988 - 1991, $445,077.

The Use of Capillary Endothelial Cells Isolated from Fat Tissue to Endothelialize Prosthetic Studies of Human Endothelial Cells of Diverse Origin, NIH, P01-AG 04961, Co-Investigator with Elliott Levine, Ph,D, 1986 - 1991, $3,091,950.

Endothelialization of Vascular Grafts, NIH, 1R01 HL33906, Co-PI with Bruce E, Jarrell, M,D,, 1986 - 1991, $499,126.

Vascular Graft Surfaces, W,W, Smith Charitable Trust, Principal Investigator, 1986 - 1989, $163,900.

Endocytosis in Capillary Endothelium, Research Career Development Award, NIH, HL01514, Principal Investigator, 1985 - 1990, $182,250,

Ischemia and the Coronary Microcirculation, American Heart Association, Delaware Affiliate Research Grant, Principal Investigator, 1983 - 1984, $12,692.

Regulation and Specificity of Endocytosis in Endothelium, NIH Research Grant, 1 R01 HL30227, Principal Investigator, 1983-1988, $733,973.

Capillary Endothelial Cell Function and Structure in Pathological States, Searle Scholars Program, 83-I101, Principal Investigator, 1983 - 1986, $150,000.

Carbohydrate Dependent Micropinocytosis in Endothelium, NIH Research Grant, New Investigator Award, 1 R23 HL28310, Principal Investigator, 1981 - 1984, $107,500.

Lesions of the Microvascular as a Result of Diabetes Mellitus, National Science Foundation Postdoctoral Fellowship, #SPI 7914915, Principal Investigator, 1980 - 1981, $14,560.

**COMMITTEE SERVICE:**

2011-2012 President, International Federation of Adipose Therapeutics and Science (IFATS) Society

2011–pres Member, Executive Committee, International Federation of Adipose Therapeutics and Science (IFATS) Society

2002-2007 Member and Chair, External Advisory Board, South Carolina Biomedical Research Infrastructure Network

1996-2007 Executive Council, International Society for Applied Cardiovascular Biology

2004-2007 Member, Advisory Committee, Flinn/Battelle/AZ Disease Control Research Commission Project, Developing a Translational Research Vision for Arizona

2004-2007 Member, University of Arizona Flinn Biosciences Roadmap Advisory Committee

2003-2007 Co-Chairman, Bioengineering Platform Committee, Flinn Foundation/Battelle

Institute’s Arizona Bioscience Roadmap Platform for Progress

2001-2007Member, Institute for Biomedical Science and Biotechnology Faculty Advisory

Committee

1997-2007 Chairman, Biomedical Engineering Interdisciplinary Graduate Program

1996-2007 Committee Member, University of Arizona M.D./Ph.D. Program

1996-2007 Technical Advisory Committee, Bioindustry Targeted Industry

1993-2007 Committee Member, Steele Children's Research Center Scientific Advisory Committee

1993-2007 Committee Member, VA Research and Development Committee

1997-2001 Member, Department of Surgery Research Committee

1998-2000 University of Arizona College of Medicine Dean’s Research Council, Bioindustry Subcommittee

1998-2000 International Society for Applied Cardiovascular Biology, VIIth Biennial Meeting Organizing Committee

1998-1999 Symposium Organizer, Materials Research Society

1998 Committee Member, Optical Sciences Academic Program Review

1996-2006 University of Arizona College of Medicine Dean’s Research Council, Space Subcommittee

1995-2003 University of Arizona College of Medicine Dean’s Research Council

1997-1999 Chairman, Department of Surgery, Promotion and Tenure Committee

1995-1998 University of Arizona College of Medicine Admissions Committee

1995-1997 Chairman, University of Arizona Committee for Medical and Biological Engineering

1995-1996 Chairman, Microcirculatory Society, Awards Committee

1993-1996 Microcirculatory Society, Awards Committee

1993-1995 Faculty Interviewer, College of Medicine Admissions

1993-1996 Chairman, Physiological Sciences Graduate Program, Executive Committee

1992-2001 Surgery Resident Research Committee

1992-1999 Department of Surgery, Promotion and Tenure Committee

1992-1993 Admission Committee, Physiological Sciences

Physiological Sciences Graduate Program, Chair, Recruiting and

Admissions

**RESEARCH GRANT REVIEWER:**

**-** National Science Foundation,

- Veterans Administration,

- Food and Drug Administration,

- Canadian Research Council,

- National Institutes of Health

Previous Reviewer – Ad Hoc Service

- Surgery, Anesthesia, Trauma

- Cellular Biology and Physiology

- Surgery and Bioengineering

Program Project Study Section Reviewer

-NIDDK, Chairman

-NIHLB, Member-multiple project reviews

Ad Hoc Service

Research Training Review Special Emphasis Panel Study Sections

K series

STTR/SBIR

P41 Resource Centers

-American Heart Association, Council on Thrombosis

-American Heart Association, Scientific Review Panel, Southwestern Region

-Austrian Science Fund (FWF)

-Nan Yang University, Singapore

**MANUSCRIPT REVIEWER:**

- American Journal of Physiology

- Cells and Materials

- Cell Transplantation, (**Section Editor, 1995 to 2005)**, Blood Vessels, Skin and Other Tissues

- In Vitro

- Journal of Cancer Research and Clinical Oncology

- Journal of Neurochemistry

- Journal of Clinical Investigation

- Journal of Cell Biology

- Journal of Biomedical Materials Research

- Journal of Vascular Surgery

- Laboratory Investigation

- Metabolism

- Microcirculation

- Microvascular Research

- Scanning Microscopy International

- Science

- Surgery

**INVITED PRESENTATIONS:**

Tissue Engineering and Bioprinting Conference Bioprinting and Bioassembly of Bioficial Organs. Boston, Massachusetts February 2015

Frost and Sullivan Mind Exchange The Ethics of Innovation San Diego California January 2015

Frost and Sullivan Mind Exchange Are Your Patents Worth the Trouble. San Diego California January 2015

International Federation for Adipose Therapeutics and Science. Three Dimensional Bioprinting of Islet and Adipose Stromal Vascular Fraction Containing Spheroids. Amsterdam, Netherlands, November 2014

Livingston Securities Life Sciences Summit 3D Printing the Total Bioficial Heart. Philadelphia Pennsylvania October 2014

Industry Day Louisiana Tech University The Development of the Total Bioficial Heart:  The Value of Industry-Academic Relationships. Reston Louisiana September 2014

Medical Manufacturing Asia Conference 3D Bioprinting of Medical Devices Suntek, Singapore. September 2014.

International Bioprinting Conference 3D Bioprinting: Bioassembly Robots and Bioinks. Biopolis, Singapore. July 2014

Centre for Commercialization of Regenerative Medicine (CCRM) The Business of Regenerative Medicine. Toronto, Canada, July 2014

Indiana Health Industry Forum The Future of Cell Therapy Indianapolis, IN May 2014

University of Minnesota Medical Device Conference Organ Printing using 3D Bioprinting Technology. Minneapolis, MN April 2014

Frost and Sullivan Mind Exchange 3D Printing San Diego California March 2014

Launch. Bioprinting San Francisco, California. February 2014

World Stem Cell Summit. Regulatory Aspects of Stem Cell Therapies, San Diego, California. December 2013

BioPrinting – 3D Printing of Live Cells Bio-Printing the Total Bioficial Heart. Atlanta Georgia, November 2013

New York Stem Cell Meeting. Adipose Derived Stem Cells and Regenerative Medicine New York City, New York. February, 2013

Harvard Medical School. Seminars in Vascular Biology. Adipose –Derived Cells for Regeneration of the Macro and Micro-Circulation January 10, 2013, Boston, MA.

Louisville Free Public Library. Biomedical Engineering: From George washingon’s fa;se teeth to artificial hearts November 15, 2012

OVALS Conference. Building a Regenerative Medicine Enterprise in an Academic Environment. Louisville, KY, October 2012.

Houston Stem Cell Summit. Automated Systems for Adipose Stem Cell Isolation. Houston, Texas, October 2012

International Federation for Adipose Therapeutics and Science Regulatory Strategies for Adipose Stem and Regenerative Cell Therapies, Quebec City, Quebec, October 2012

Stem Cell Society of Singapore Symposium. Adipose Stromal Vascular Fraction Cells for Regenerative Medicine, Biopolis, September 2012

Caplan Business Development Course, Adipose Regenerative Cells for Microvascular and Macrovascular Applications, Cleveland, Ohio. July 2012

Metro United Way. Cardiovascular Regenerative Medicine. Louisville, Kentucky December 6, 2011

Corporate College. Innovation & Entrepreneurism. Louisville, Kentucky March 2011.

International Federation for Adipose Therapeutics and Science. Pre-Clinical Studies of Tissue Engineered Vascular Grafts, Dallas, Texas. October 2010

New York Stem Cell Meeting. Adipose Derived Stromal Vascular Fraction Cells for Tissue Ischemia. New York City, New York. February, 2010

International Federation for Adipose Therapeutics and Science. Automated Systems for Tissue Engineered Vascular Graft Production, Daegu, Korea. October 2009

International Society of Applied Cardiovascular Biology, Training Students in Cardiovascular Innovation, Chang Mai, Thailand. October 2009

New York Stem Cell Meeting. Adipose Derived Stem Cells and Their Therapeutic Capabilities. New York City, New York. February, 2009

International Federation for Adipose Therapeutics and Science. Automated Systems for Tissue

Engineered Vascular Graft Production, Toulouse, France. October 2008

American Veterinary Medical Association, Regenerative Stem Cell Medicine: What the

Future has in Store, New Orleans, Louisiana. July 2008

New York Stem Cell Meeting. Automated Adipose Cell Isolation System. New York City, New York. February, 2008

School of Chemical and Biomedical Engineering Bimolecular Engineering Conference, Plenary speaker, Singapore. December 2007.

World Congress of Microcirculation, Bioengineering Approaches to Stimulating Therapeutic Neovascularization. August 2007.

University of Massachusetts-Amherst Polymers in Medicine and Pharmaceutical Research Symposium, “Biopolymer-Directed Tissue Responses: Material Design and Modification. October 2006.

Golden Gate Polymer Forum Polymers in Medicine Short Course, “Tissue Engineering-Cell polymer interaction and choice of animal models to evaluate device-tissue interactions”, May 2006. (4 lectures)

University of Arizona Applied Math Program “Building Blood Vessels”. May 2006

Scanning 2006, “Morphologic Assessment of the Endothelialization of Biomedical Implants”. April 2006.

University of Arizona Stem Cell Conference, “Stem Cell Therapies for the Treatment of Cardiovascular Disease”. April 2006.

International Society of Applied Cardiovascular Biology, “Extracellular Matrix Modifications of

Materials to Control Tissue Responses”. March 2006

Training Grant Workshop University of Arizona. December 2005

Conor Medical, Surface Modifications to Support Endothelialization, November 2005

Golden Gate Polymer Forum, “Biomaterials-Directed Tissue Responses: Material Design & Modification”, San Francisco, California. October 2005

Surfaces in Biomaterials, Biointerface 2005, “Invention Symposium”, Minneapolis, Minnesota. October 2005.

Surmodics, Inc., “Opportunities in Regenerative Medicine”, Minneapolis, MN, September 2005.

University of Washington Summer Symposium, “Bugs and Biomaterials: Bacteria and the Biointerface”, Seattle, Washington. August 2005.

Controlled Release Society: Drug Eluting Stents Workshop, “Biology and Drug Eluting Stents”, Miami Beach, Florida. June 2005

Georgia Tech, ET-2005: Engineering Tissues Workshop, “Animal Models in Tissue Engineering”. March 2005.

Shaping the Future of IT, The University of Arizona Eller College Of Management, Management Information Systems Department 30th Anniversary Program, Panelists: Pharma-Drug & Device Informatics and Moderator: Medical Informatics.

Biomedical Research Day, Southwest Association for Education in Biomedical Research, University of Arizona. October 2004

League of AZ Cities and Towns Conference, “Arizona Biosciences Roadmap”. September 2004.

University of Washington Summer Symposium, Bioengineered Blood Vessels and Valves 2004: Grafts, Stents, Valves and Tissue Engineering, Invited Lecturer. August 2004.

7th World Biomaterials Congress, Symposium Keynote Lecturer, “Engineered Biomaterials for Angiogenesis”. May 2004

Faculty, Bioindustry Organization of Southern Arizona, “Hot Topics in Bioengineering”. April 2004.

Southwest Association for Education in Biomedical Research, Biomedical Research and Career Paths, presentation to high school students and teachers. February 2004

Bioindustry Organization of Southern Arizona, “Man in a Box: Biomaterials and Biomedical Implants”. January 2004

Flinn Foundation Arizona Biosciences Roadmap Bioengineering. May 2003

University of Alabama at Birmingham Biomedical Engineering Department. “Biomaterials for Regenerative Medicine: Regulation of Angiogenesis”. April 2003

Arizona Imaging and Microanalysis Society (AIMS) annual conference. March 2003

AZ Health Sciences Center Library Frankenstein Exhibit lectures series. Presentation title, “Tissue Engineering and Regenerative Medicine”. March 2003

Bioethics Conference, Arizona Health Sciences Center. October 2002

Surfaces in Biomaterials, Scottsdale, Arizona. August 2002

MEDCAMP, University of Arizona, “Biomedical Engineering”. July 2002

Undergraduate Research Biology Program, University of Arizona. July 2002

Camp ACCESS, The University of Arizona, “The Bionic Man”. June 2002,

Achievement Rewards for College Scientists Foundation (ARCS). April 2002

Arizona Lab Animal Association, Tucson, Arizona, “How Biomedical Engineers

Heal Broken Hearts, and Hips and Lips". February 2002

Jewish Community Center Young at Heart, Tucson, Arizona, “Stem cell research”. January 2002

Tucson Women in Health Care, Tucson, Arizona, “Science of stem cell research”. January, 2002

Surfaces in Biomaterials, Scottsdale, Arizona. August 2001

American Society of Mechanical Engineers, 2001 Summer Bioengineering Conference, Utah,

June 2001

Eclipse Surgical Technologies National Sales Training Meeting. May 2001

Oregon Medical Laser Center Board of Trustees, Portland, Oregon. May 2001

Society for Biomaterials, St. Paul, Minnesota. April 2001

Intermountain University Research Administrators Annual Meeting, Tucson, Arizona. January 2001

University of Arizona Department of Surgery Grand Rounds, Tucson, Arizona. August 2000

Oregon Medical Laser Center Photomedicine Lecture Series, Portland, Oregon. July 2000

Camp ACCESS, The University of Arizona. June 2000

University of Arizona Chemical Engineering Seminar, Tucson, Arizona. April 2000

Experimental Biology, San Diego, California. April 2000

Achievement Rewards for College Scientists, Tucson, Arizona. March 2000

International Society for Applied Cardiovascular Biology, Tucson, Arizona. March 2000

University of Arizona Faculty Community Lecture Series, Tucson, Arizona. October 1999

Catalina High School, Tucson, Arizona. October 1999

Academy of Surgical Research, Keynote Speaker, Scottsdale, Arizona. September 1999

Surfaces in Biomaterials, Scottsdale, Arizona. September 1999

University of Washington Engineered Materials Summer Symposium. August 1999

Eastern Virginia Medical School. June 1999

American Society for Artificial Internal Organs, San Diego, California. June 1999

Society for Biomaterials, Providence, Rhode Island. April 1999

US Surgical, VCS Clip Applier Advanced Training Course, Tucson, Arizona. April 1999

US Surgical, VCS Clip Applier Advanced Training Course, Tucson, Arizona. March 1999

Estes Elementary School Gifted Program, Marana, Arizona. February 1999

Carbomedics, Austin, Texas. February 1999

National American Heart Association 71st Scientific Session, Dallas, Texas. November 1998

Department of Pharmacology, University of Pittsburgh, Pittsburgh, Pennsylvania. October 1998

Yale Alumni Club, Tucson, Arizona. October 1998

Surfaces in Biomaterials, Tucson, Arizona. September 1998

Discovery Seminar Series, Monsanto Corp. May 1998

Society for Biomaterials, Session Chair, Cell-Biomaterials Interaction, San Diego, California. April 1998

United States Surgical Corp, CME Cardiovascular Course, University of Arizona. February 1998

Becton-Dickinson, Live Cell Handling in Surgical Research. February 1998

Green Valley Recreation Fitness Club, Green Valley, Arizona. December 1997

University Heart Center Scientific Conference, Tucson, Arizona. November 1997

Medical University of South Carolina. October 1997

NIH Angiogenesis Working Group, NCI, June 1997

NIH Research Initiatives Conference, “How to Build a Blood Vessel”, Bethesda, Maryland.

February 1997

University Heart Center Scientific Conference, Tucson, Arizona. November 1996

Biomedical Engineering Society, Philadelphia, Pennsylvania. October 1996

Surfaces in Biomaterials, Phoenix, Arizona. September 1996

American Association for Laboratory Animal Science, Tucson, Arizona. May 1996

American Society for Artificial Internal Organs, Washington, DC. May 1996

Flinn Foundation Biomedical Initiative Symposium, Scottsdale, Arizona. May 1996

International Society for Applied Cardiovascular Biology, Manchester, England. March 1996

Arizona Cancer Center Gene Therapy Retreat, Tucson, Arizona. September 1995

Arizona Imaging & Microanalysis Society, Tucson, Arizona. 1995

American Society of Artificial Internal Organs, Chicago, Illinois. 1995

Cell Transplantation Symposium, Miami, Florida. 1995

University of Minnesota, St. Paul, Minnesota. 1995

Geron Corporation, New York, New York. 1994

Cardiovascular and Respiratory Mechanics and Transport Workshop. September 1994

Association of American Medical College, Ft. Lauderdale, Florida. 1994

Cell Transplant Society, Minneapolis, Minnesota. 1994

Barrow Neurological Institute, Phoenix, Arizona. 1994

University of Arizona, MEDCAMP, Tucson, Arizona. July 1994

University of Arizona, Medical Student Summer Research Seminar, Tucson, Arizona. July 1994

University of Arizona, Minority High School Student Seminar, Tucson, Arizona. July 1994

University of Arizona, Workshop on Biomaterials, Tucson, Arizona. March, 1994

Arizona American Assoc Laboratory Animal Science, Tucson, Arizona. September, 1993

Baxter Healthcare Corporation, Irvine, California. 1993

Cardiovascular Sciences and Technology Conference, Washington, DC. 1993

NIH Biomolecular Engineering, Bethesda, Maryland. 1992

European Surgeon’s Scientific Program, Irvine, California. 1992

Biomedical Implants, University of Michigan, Ann Arbor, Michigan. 1991

Microcirculation Society Meeting, Louisville, Kentucky. 1991

NIH Devices and Technology Branch, Contractors Meeting, Louisville, Kentucky. 1989

Scanning Electron Microscopy Society. 1989

Gordon Research Conference on Biomaterials. 1989

Endothelial Cell Seeding of Vascular Grafts, Indianapolis, Indiana. 1988

NIH Devices and Technology Branch, Contractors Meeting, Bethesda, Maryland. 1988

NIH Devices and Technology Branch, Contractors Meeting, Bethesda, Maryland. 1987

Vascular Endothelium in Health and Disease, Taiwan. 1987

International Conference on Nephrology, London. 1987

Gordon Research Conference on Biomaterials. 1987

European Workshop on Advanced Technologies in Vascular Surgery. 1986

New York Academy of Sciences Symposia on Biomaterials. 1986

FASEB Mini-symposia on Endothelial Cell Biology. 1985

Gordon Research Conference on Biomaterials. 1987

Gordon Research Conference on Blood-surface Interfaces. 1985

Gordon Research Conference on the Microcirculation (Session Chairman). 1985

Microcirculatory Society Symposia on Isolated Endothelial Cell Methods. 1985

Tissue Culture Association of America. 1985

Endothelial Vesicle Workshop, Oxford, UK. 1984

Peripheral Neuropathy Association of America, Annual Meeting. 1984

American Diabetes Association, New York Affiliate, Annual Meeting. 1983

New York Academy of Sciences Symposium on Biorheology. 1982

**PRESENTATIONS:**

International Federation for Adipose Therapeutics and Science. In vitro Assessment of Adipose Stromal Vascular Fraction Cell Delivery Utilizing a Perfusion Balloon Catheter. Amsterdam, Netherlands November 2014.

International Society for Applied Cardiovascular Biology. 3D Bioprinting the Total Bioficial Heart. Cleveland, OH. April 2014

International Federation for Adipose Therapeutics and Science. Human Adipose SVF Spheroids, NYC. November 2013

International Federation for Adipose Therapeutics and Science, Regulatory Pathway Panel, Miami, November 2011

The Business of Regenerative Medicine : From Stem Cells to Marketplace, Adipose Regenerative Cells for Microvascular and Macrovascular Applications, Cleveland, July 2011

International Federation for Adipose Therapeutics and Science. Pre-Clinical Studies of Tissue Engineered Vascular Grafts, Dallas, Texas. October 2010

New York Stem Cell Meeting. Adipose Derived Stromal Vascular Fraction Cells for Tissue Ischemia. New York City. New York. February, 2010

International Federation for Adipose Therapeutics and Science. Automated Systems for Tissue Engineered Vascular Graft Production, Daegu, Korea. October 2009

International Society of Applied Cardiovascular Biology, Training Students in Cardiovascular Innovation, Chang Mai, Thailand. October 2009

Biomedical Engineering Society Annual Meeting, Medical Device and Therapeutics Developed in the Academic Environment, Pittsburgh, October 2009

New York Stem Cell Meeting. Adipose Derived Stem Cells and Their Therapeutic Capabilities. New York City, New York. February, 2009

International Federation for Adipose Therapeutics and Science. Automated Systems for Tissue Engineered Vascular Graft Production, Toulouse, France. October 2008

American Veterinary Medical Association, Regenerative Stem Cell Medicine: What the

Future has in Store, New Orleans, LA. July 2008

New York Stem Cell Meeting. Automated Adipose Cell Isolation System. New York City, New York. February, 2008

School of Chemical and Biomedical Engineering Bimolecular Engineering Conference, Plenary speaker, Singapore. December 2007.

World Congress of Microcirculation, Bioengineering Approaches to Stimulating Therapetuic Neovascularization. August 2007.

University of Massachusetts-Amherst Polymers in Medicine and Pharmaceutical Research Symposium, “Biopolymer-Directed Tissue Responses: Material Design and Modification. October 2006.

Golden Gate Polymer Forum Polymers in Medicine Short Course, “Tissue Engineering-Cell polymer interaction and choice of animal models to evaluate device-tissue interactions”. May 2006. (4 lectures)

University of Arizona Applied Math Program “Building Blood Vessels”/May 2006

Scanning 2006, “Morphologic Assessment of the Endothelialization of Biomedical Implants”. April 2006.

University of Arizona Stem Cell Conference, “Stem Cell Therapies for the Treatment of Cardiovascular Disease”. April 2006.

International Society for Applied Cardiovascular Biology Symposium, Practical Aspects

of Cardiovascular Tissue Engineering, Cape Town South Africa. February 2005

Surfaces in Biomaterials. October 2003

Biomedical Engineering Society. October 2003

DARPA Tissue CAD Technologies Workshop. December 2001

European Hernia Society. June 2001

Experimental Biology. April 2001

Sixth World Biomaterials Congress. May 2000

Society for Biomaterials. April 1998

International Society for Applied Cardiovascular Biology. March 1998

Surfaces in Biomaterials. September 1997

Rincon Rotary. June 1997

Cell Transplant Society. September 1996

Microcirculatory Society. April 1996

FASEB, Washington, DC. April 1996

Gordon Research Conference, Kingston, Rhode Island. July 1995

Microcirculatory Society, Atlanta, Georgia. April 1995

FASEB**,** Atlanta, GA. April 1995

Society for Biomaterials, San Francisco, California. March 1995

Frontiers in Biomedical Engineering, Tempe, Arizona. October 1994

Society for Leukocyte Biology, Tucson, Arizona. September 1994

Surfaces in Biomaterials 94, Scottsdale, Arizona. September 1994

Academy of Surgical Research, Breckinridge, Colorado. August, 1993

Alexion Corporation, New Haven, Connecticut. July 1993

American Society for Artificial Internal Organs, New Orleans, Louisiana. April, 1993

American Heart Association, Arizona Affiliate, Tucson, Arizona. April 1993

FASEB, New Orleans, Louisiana. March 1993

Baxter Healthcare Corporation, Irvine, California. February 1993

University of Arizona, Physiology Department, Tucson Arizona. February 1993

University of Arizona, University Animal Care, Tucson, Arizona. January 1993

University of Arizona, Hematology Conference, Tucson, Arizona. October 1992

University of Arizona, Arizona Cancer Center, Tucson, Arizona. October 1992

University of Arizona, Technology Transfer, Tucson, Arizona. April 1992

University of Arizona, Technology Transfer, Tucson, Arizona. March 1992

University of Arizona, Program Project, Tucson, Arizona. January 1992

University of Arizona, Cardiothoracic Surgery, Tucson, Arizona. November 1992

University of Arizona, Physiology Department, Tucson, Arizona. February 1992

University of Arizona, Physiology Department, Tucson, Arizona. February 1992

Baxter Healthcare, Irvine, California. January 1992

Baxter Healthcare, Round Lakes, Illinois. November 1989

Medical College of Pennsylvania, Philadelphia, Pennsylvania. November 1989

Delaware Valley Vascular Society, Philadelphia, Pennsylvania. September 1989

C.R. Bard, Inc., Rutherford, New Jersey. September 1989

Baxter Laboratories, Irvine, California. July 1989

Gordon Research Conference, Plymouth, New Hampshire. July 1989

Berlex Laboratories, Cedar Knolls, New Jersey. May 1989

Endothelial Cell Seeding Symposia, Indianapolis, Indiana. October 1988

World Congress Cell Biology, Montreal, Canada. August 1988

Becton Dickinson Company, Franklin Lakes, New Jersey. July 1988

Merck Company, Fort Washington, Pennsylvania. May 1988

New Jersey College of Medicine and Dentistry, Newark, New Jersey. May 1988

FASEB, Las Vegas, Nevada. April 1988

Becton Dickinson Company, Franklin Lakes, New Jersey. April 1988

NIH Devices Branch, Bethesda, Maryland. December 1987

American Society of Cell Biology, St. Louis, Missouri. November 1987

University of Pennsylvania, Philadelphia, Pennsylvania. October 1987

Thomas Jefferson University, Philadelphia, Pennsylvania. September 1987

Vascular Endothelium Conference, Taiwan. July 1987

Nephrology Conference, London, UK. July 1987

Gordon Research Conference, Plymouth, New Hampshire. July 1987

Becton Dickinson Company, Franklin Lakes, New Jersey. June 1987

FASEB, St. Louis, Missouri. April 1987

Becton Dickinson Company, Raleigh, North Carolina. February 1987

Thomas Jefferson University, Philadelphia, Pennsylvania. January 1987

American Society Cell Biology, Baltimore, Maryland. December 1986

Philadelphia Urban Club, Philadelphia, Pennsylvania. December 1986

New York Academy of Sciences, New York, New York. November 1986

European Endothelial Cell Seeding Symposia, Vienna, Austria. November 1986

Becton Dickinson Company, Raleigh, North Carolina. October 1986

New York Academy of Medicine, New York, New York. October 1986

Endothelial Seeding Symposia, Indianapolis, Indiana. September 1986

Becton Dickinson Company, Raleigh, North Carolina. August 1986

Searle Scholars Program, Chicago, Illinois. March 1986

University of Pennsylvania, Philadelphia. Pennsylvania. March 1986

New York Academy of Sciences, New York, New York. March 1986

Thomas Jefferson University, Philadelphia, Pennsylvania. March 1986

Thomas Jefferson University, Philadelphia, Pennsylvania. February 1986

Merck Company, Fort Washington, Pennsylvania. February 1986

Thomas Jefferson University, Philadelphia, Pennsylvania. January 1986

DuPont Company, Wilmington, Delaware. October 1985

University of Missouri, Columbia, Missouri. June 1985

Gordon Research Conference, Plymouth, New Hampshire. June 1985

DuPont Company, Wilmington, Delaware. June 1985

Tissue Culture Association, New Orleans, Louisiana. May 1985

Searle Scholars Meeting, Chicago, Illinois. May 1985

FASEB, New Orleans, Louisiana. April 1985

Microcirculatory Society, New Orleans, Louisiana. April 1985

Thomas Jefferson University, Philadelphia, Pennsylvania. March 1985

New York Medical College, Valhalla, New York. March 1985

American Society Vascular Surgery, San Antonio, Texas. November 1984

American Society Cell Biology, Denver, Colorado. November 1984

World Congress Microcirculation, Oxford, UK. September 1984

Allentown Hospital, Allentown, Pennsylvania. July 1984

Peripheral Neuropathy Symposia, Keystone, Colorado. June 1984

Searle Scholars Program, Chicago, Illinois. May 1984

Yale School of Medicine, New Haven, Connecticut. April 1984

FASEB, Atlanta, Georgia. March 1984

Thomas Jefferson University, Philadelphia, Pennsylvania. March 1984

College of Physicians and Surgeons, Philadelphia, Pennsylvania. March 1984

Texas Tech University, Lubbock, Texas. February 1984

Los Alamos National Laboratory, Los Alamos, New Mexico. February 1984

Yale School of Medicine, New Haven, Connecticut. February 1984

Wistar Institute, Philadelphia, Pennsylvania. February 1984

University of Maryland, Baltimore, Maryland. March 1983

St. Joseph's University, Philadelphia, Pennsylvania. March 1983

Rockefeller University, New York, New York. April 1983

Thomas Jefferson University, Philadelphia, Pennsylvania. May 1983

Pfizer, Groton, Connecticut. May 1983

Thomas Jefferson University, Philadelphia, Pennsylvania. October 1983

University of Pennsylvania, Philadelphia, Pennsylvania. November 1983

American Physiological Society, Honolulu, Hawaii. August 1983

Microcirculatory Society, New Orleans, Louisiana. March 1983

Microcirculatory Society, Atlanta, Georgia. March 1982

Microcirculatory Society, St. Louis, Missouri. March 1981

Microcirculatory Society, San Diego, California. March 1980

University of Delaware, Newark, Delaware. March 1979

Yale School of Medicine, New Haven, Connecticut. April 1979

World Congress of Microcirculation, San Diego, California. July 1979

Microcirculatory Society, San Antonio, Texas. March 1979

American Society Cell Biology, San Diego, California. November 1977

American Society Microbiology, Atlantic City, New Jersey. April 1976

Plant Physiology Society, Ithaca, New York. June 1975

Plant Physiology Society, Ithaca, New York. June 1974

**UNITED STATES PATENTS ISSUED:**

1. U.S. PATENT #: 4,820,626 - A Method of Treating a Synthetic or Naturally Occurring Surface with Microvascular Endothelial Cells and the Treated Surface Itself

2. U.S. PATENT #: 4,883,755 - Method of Reendothelializing Vascular Linings

3. U.S. PATENT #: 5,035,708 - Endothelial Cell Procurement and Deposition Kit

4. U.S. PATENT #: 5,131,907 - Method of Treating a Synthetic Naturally Occurring Surface with a Collagen Laminate to Support Microvascular Endothelial Cell Growth, and the Surface Itself

5. U.S. PATENT #: 5,194,373 - Method of Determining Endothelial Cell Coverage of a Prosthetic Surface

6. U.S. PATENT #5,230,693 - Implantable Prosthetic Device for Implantation into a Human Patient Having a Surface Treated with Microvascular Endothelial Cells

7. U.S. PATENT #5,312,380 - Endothelial Cell Procurement and Deposition Kit

8. U.S. PATENT #5,372,945 - Device and Method for Collecting and Processing Fat Tissue and Procuring Microvessel Endothelial Cells to Produce Endothelial Cell Product

9. U.S. PATENT #5,441,539 - Endothelial Cell Deposition Device

10. U.S. PATENT #5,628,781 - Implant Materials, Methods of Treating the Surface of Implants with Microvascular Endothelial Cells, and the Treated Implants Themselves

11. U.S. PATENT #5,744,515 - Method and Implantable Article for Promoting Endothelialization

12. U.S. PATENT #5,957,972 - Implants Possessing a Surface of Endothelial Cells Genetically-modified to Inhibit Intimal Thickening

13. U.S. PATENT #6,699,210 - Glaucoma Shunt and a Method of Making and Surgically Implanting the Same

14. U.S. PATENT #7,029,838 - Prevascularized Constructs for Implantation to Provide Blood Perfusion

15. U.S. PATENT #7,052,829 - Prevascularized Constructs for Implantation to Provide Blood Perfusion

16. U.S. PATENT #7,220,276 - Endovascular Graft Coatings

17. U.S. PATENT #8,202,725 - Cell Sodding Method and Apparatus

18. U.S. PATENT # 8,727,965 – Methods and Compositions to Support Tissue Integration and Inosculation of Transplanted Tissue and Transplanted Engineered Penile Tissue with Adipose Stromal Cells

**UNITED STATES PATENTS PENDING:**

**Published Non Provisional Patent Applications**

|  |  |  |
| --- | --- | --- |
| 20150004222 Methods for Preparing Cell Delivery Matrices  20150004199 Methods for In Situ Cell Sodding  20140370069Methods for Treating an Established Myocardial Infarction  20140271574 Methods and compositions for treating congestive heart failure    20140242143 Adipose Stromal Vascular Fraction Cell Constructs  20140207103 Hand-held Adipose Processor and Cell Concentrator  20140114064 Hand-Held Micro-Liposuction Adipose Harvester, Processor and Cell Concentrator  20130064798 Methods And Compositions For Treating Congestive Heart Failure  20120276062 Methods for Treating Ischemic Tissue  20120201890 Methods and Compositions to Support Transplanted Tissue Integration and Inosculation with Adipose Stromal Cells | |  |
|  |

20110244014 Implantable Medical Articles Having Laminin Coatings and Methods Of Use

20110218396 Methods And Compositions To Support Tissue Integration And Inosculation Of Transplanted Tissue and Transplanted Engineered Penile Tissue With Adipose Stromal Cells

20110212068 Methods And Compositions For Treating Congestive Heart Failure

20110059059 Methods for Treating Ischemic Tissue

20100196433 Prevascularized Devices and Related Methods

20100075293 Bioreactors, Systems and Methods for Vascularizing Tissue Constructs

20090317482 Methods and Compositions for Treating Congestive Heart Failure

20090220569 Prevascularized Constructs for Implantation to Provide Blood Perfusion

20090192454 Catheter for Cell Delivery

20090186001 Methods for Treating Ischemic Tissue

20090008238 Portable Gas Sterilization System Using Disposable Gas Generation Components

[20080243243](http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnetahtml%2FPTO%2Fsearch-adv.html&r=1&p=1&f=G&l=50&d=PG01&S1=%28stuart+AND+williams%29.IN.&OS=in/(stuart+and+williams)&RS=IN/(stuart+AND+williams)) [Implantable Medical Articles Having Pro-healing Coatings](http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnetahtml%2FPTO%2Fsearch-adv.html&r=1&p=1&f=G&l=50&d=PG01&S1=%28stuart+AND+williams%29.IN.&OS=in/(stuart+and+williams)&RS=IN/(stuart+AND+williams))

[20080226604](http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnetahtml%2FPTO%2Fsearch-adv.html&r=2&p=1&f=G&l=50&d=PG01&S1=%28stuart+AND+williams%29.IN.&OS=in/(stuart+and+williams)&RS=IN/(stuart+AND+williams)) [Methods for Treating Ischemic Tissue](http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnetahtml%2FPTO%2Fsearch-adv.html&r=2&p=1&f=G&l=50&d=PG01&S1=%28stuart+AND+williams%29.IN.&OS=in/(stuart+and+williams)&RS=IN/(stuart+AND+williams))

[20080160085](http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnetahtml%2FPTO%2Fsearch-adv.html&r=4&p=1&f=G&l=50&d=PG01&S1=%28stuart+AND+williams%29.IN.&OS=in/(stuart+and+williams)&RS=IN/(stuart+AND+williams)) [Cell Delivery Matrices](http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnetahtml%2FPTO%2Fsearch-adv.html&r=4&p=1&f=G&l=50&d=PG01&S1=%28stuart+AND+williams%29.IN.&OS=in/(stuart+and+williams)&RS=IN/(stuart+AND+williams))

20080058763 Catheter for Cell Delivery

[20080014181](http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnetahtml%2FPTO%2Fsearch-adv.html&r=11&p=1&f=G&l=50&d=PG01&S1=%28stuart+AND+williams%29.IN.&OS=in/(stuart+and+williams)&RS=IN/(stuart+AND+williams)) [Cell Separation Apparatus and Methods of Use](http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnetahtml%2FPTO%2Fsearch-adv.html&r=11&p=1&f=G&l=50&d=PG01&S1=%28stuart+AND+williams%29.IN.&OS=in/(stuart+and+williams)&RS=IN/(stuart+AND+williams))

20070243574 Vascular Mimic for Drug and Device Evaluation

20070173922 Endovascular Graft Coatings

20070179589 Endovascular Graft Coatings

20070191936 Endovascular Graft Coatings

20060292125 Methods for Treating Ischemic Tissue

20060210603 Implantable Medical Articles Having Laminin Coatings and Methods of Use

20060188488Prevascularized Constructs for Implantation to Provide Blood Perfusion

20060140916Methods and Compositions for Treating Congestive Heart Failure

**United States Provisional Patent Applications and Disclosures**

Total Bioficial Heart

Bioprinted 3D Spheroids

Biohybrid Systems and Methods of Making The Same

Adipose Stromal Vascular Fraction Cell Construct Sustains Coronary Microvascular Function

After Acute Myocardial Infarction

Prevascularized Materials and Methods of Using the Same

Cell Delivery Device Constructed from Electrospun Components

Adipose Tissues Washing, Digestion and Cell Isolation System

Bioabsorbable Closure for Endoscopic Repair of Gastric Perforation

Pressure Sensor for Balloon Catheter System

Adipose-derived Stromal Vascular Fraction (and sub-fraction) Cells as Diagnostic Agents for Vascular Status and Inflammation

Biochamber and Methods for Development and Investigation of Tissues and Tissue Engineered Constructs

Biohybrid Coronary Artery Bypass Graft

Prevascularized Materials to Improve Function

Materials and Processes for Direct-Write 3D Printing of Non-vascularized and Pre-vascularized Cell/Biological Encapsulation and Delivery Systems

Device and Method for Collecting and Processing Fat Tissue and Procuring Adipose Stromal Vascular Fraction Cell Product

Micro-Scale Blood Vessel Mimic

Glaucoma Shunt Constructed from Electrospun Components

Adipose Derived Regenerative Cell Isolation

Cell Delivery Device Constructed from Electrospun Components

Methods and Compositions to Support Transplanted Tissue Integration and Inosculation with Adipose Stromal Cells

**MEDIA:**

**February 2015**

Project focuses on printing hearts using fat cells, 3D printer <http://www.wave3.com/story/28191709/project-focuses-on-printing-hearts-using-fat-cells-3d-printer>

Wave3 News (NBC), Louisville, KY

**January 2015**

Moonshots for the 21st Century Fareed Zakaria Global Public Square CNNGo

Hand transplant docs use fat to prevent rejection USA Today

**November 2014**

New hand transplant method tested in Louisville Courier Journal Louisville, Kentucky

**September 2014**

From a Medical Past Comes a Bioprinting Future: At the University of Louisville, great strides are being made in the development of a bioficial heart.

Medical Design

University of Louisville working on 'bioficial heart' using 3-D printing

Fierce Medical Devices

**May 2014**

Bioprinting  – The Next Stage of 3D Printing

http://www.inside3dp.com/bioprinting-next-stage-3d-printing/

Inside 3DP

Researchers closing in on printing 3-D hearts <http://www.usatoday.com/story/tech/2013/05/29/health-3d-printing-organ-transplant/2370079/>

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**April 2014**

3D 'bioprinting': 10 things you should know about how it works <http://www.techrepublic.com/article/3d-bioprinting-10-things-you-should-know-about-how-it-works/> Tech Republic

[Scientists try 3-D printer to build human heart](http://www.washingtonpost.com/national/health-science/scientists-try-3-d-printer-to-build-human-heart/2014/04/09/c5522ec8-c055-11e3-9ee7-02c1e10a03f0_story.html) Washington Post - ‎Apr 9, 2014‎

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[*www.huffingtonpost.com/.../3d-printer-human-heart*](http://www.huffingtonpost.com/.../3d-printer-human-heart)*...*‎

The Huffington Post

# Photos of the Day: 3D Printing a Heart

[*www.mdtmag.com/news/2014/04/photos-day-3d-printing-heart*](http://www.mdtmag.com/news/2014/04/photos-day-3d-printing-heart)‎

[Scientists try 3-D printer to build human heart - WATE.com](http://www.wate.com/story/25215406/scientists-try-3-d-printer-to-build-human-heart)

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**2004**

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**2003**

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209. O’Halloran Cardinal K, Bonnema GT, Barton JK, WILLIAMS SK: 2006. Effect of flow on Tissue Responses to Intravascular Stents. BMES Annual Fall Meeting.

208. Kleinert LB, Marshall M, WILLIAMS SK: 2006. The Challenges of Operating a GLP Laboratory in a University Environment. The 22nd Society for Quality Assurance Annual Meeting. Phoenix, AZ.

207. Simon BR, Vande Geest J, Rigby P, Newberg T, WILLIAMS SK, Hossainy S and Pradhu S: 2006. Structural-Transport FEM’s of Drug Eluting Stents in Large Arteries. The World Congress in Biomechanics.

206. Hofer H, O’Halloran K, Stone A and WILLIAMS SK: 2006. Flow-induced Intimal Thickening of Blood Vessel Mimics. Submitted for Presentation at International Society for Cardiovascular Biology.

205. O’Halloran K and WILLIAMS SK: 2006. International Society for Cardiovascular Biology.

204. Hiscox AM, Stone AL, Gruionu G, Patula VB, Hoying JB and WILLIAMS SK: 2006. Development of an Islet-stablizing Implant Construct. Experimental Biology.

203. O’Halloran K and WILLIAMS SK: 2005. Tissue Engineered Vascular Grafts as an In Vitro Model System. Society for Biomaterials 30th annual meeting. Winner: Student travel and professional development award.

202. Powis S, Hoying JB, Riley MR and WILLIAMS SK: 2005. Acquired Microbial Resistance to Chlorine Dioxide. Antimicrobial Resistance Sponsored by National Foundation for Infectious Diseases.

201. O’Halloran K, Bonnema GT, Barton JK, WILLIAMS SK: 2005. Stent Evaluation in a Blood Vessel Mimic. Surfaces in Biomaterials: BioInterface.

200. Smith CM, Warren WL, Hoying JB and WILLIAMS SK: 2005. Utilizing a Three-dimensional Bioassembly Tool to Fabricate Spatially Organized Multicellular Vascular Constructs. Experimental Biology.

199. Bonnema GT, O’Halloran K, WILLIAMS SK and Barton JK: 2004. Imaging Vascular Implant Development with Optical Coherence Tomography. IEEE/LEOS Conference.

198. Terrand J, WILLIAMS SK and Chen QM: 2004. Suicidal Role of p21WAF1/Cip1/Sdi1 in Doxorubmicin Induced Cardiomyopathy. American Heart Association annual meeting.

197. Schwartz MA, Stone AL, Greer KA, WILLIAMS SK and Hoying JB: 2003. Using Gene Expression Profiles to Determine the Role of Laminin 5 Modication in Polymer Associated Healing. FASEB.

196. Powis S, WILLIAMS SK and Mueller E: 2004. Sterilization with Chlorine Dioxide. The Society for Biomaterials.

195. Powis S, WILLIAMS SK, Mueller E, Kampa J and Barenberg S: 2004. Antimicrobial Efficacy of a Chlorine Dioxide Generating Biomaterials In vitro and In vivo. The Society for Biomaterials.

194. Terrand J, WILLIAMS SK and Chen QM: 2004. Cardiac Hypertrophy: Implication of p21waf-1. The Society of Toxicology.

193. WILLIAMS SK, Smith CM, Stone AL, Parkhill RL, Stewart RL, Simpkins MW, Kachurin AM and Warren WL: 2003. BioAssembly Tool for Surface Modification of Biomaterials. Surfaces in Biomaterials Annual Meeting.

192. WILLIAMS SK, Smith CM, Stone AL, Parkhill RL, Stewart RL, Simpkins MW, Kachurin AM and Warren W: 2003. A BioAssembly Tool for Cardiac Tissue Engineering. Biomedical Engineering Society Conference.

191. Schwartz MA, Stone AL, Greer KB, Kidd KR, WILLIAMS SK and Hoying JB: 2003. Evidence for a Cyclical Nature in Chronic Healing Response Associated with Artificial Device Implantation Using Gene Expression Analysis. Experimental Biology.

190. Berman SB, Gentile AT and WILLIAMS SK: 2002. Contemporary Results of Percutaneous Infrainguinal Revascularization. Submitted for Presentation at Society of Interventional Radiology.

189. Smith C, Hoying JB and WILLIAMS SK: 2003. Three Dimensional Analysis of Mural Cell Coverage in Microvascular Collagen Gels. Experimental Biology.

188. Stone AL, Smith CM, Kachurin AM, Stewart RL, Parkhill RL, Simpkins M, Warren WL and WILLIAMS SK: 2003. Angiogenic Potential of Polymers Coated with Extracellular Matrix Proteins Using a Three Dimensional Printing System. The Society for Biomaterials Annual Meeting.

187. Schwartz MA, Stone AL, Greer KA, Kidd KR, WILLIAMS SK and Hoying JB: 2003. Molecular Characterization by cDNA Microarray Analysis of Tissue Responses to an Angiogenesis-stimulating ePTFE. The Society for Biomaterials Annual Meeting.

186. Smith C, Stone AL, Parkhill RL, Stewart RL, Simpkins MW, Kachurin AM, Warren WL and WILLIAMS SK: 2003. Three Dimensional Printing Systems for the Fabrication of Cell and Polymer constructs. Society for Biomaterials Annual Meeting.

(considered for Cardiovascular Biomaterials Special Interest Group Student Recognition Award)

185. Powis S, WILLIAMS SK, Mueller E, Kampa J and Barenberg S: 2003. Antimicrobial Activity of a Novel Biomaterial. Society for Biomaterials Annual Meeting.

184. Kellar RS, Larson D, Lundeen T, Landeen LK, Ratcliffe A and WILLIAMS SK: 2002. Cardiac Function Following Acute Infarction: Effect of Human Fibroblast Epicardial Patch. AHA Scientific Sessions.

183. Schwartz MA, Stone A, WILLIAMS SK and Hoying JB: January 2002. Describing Angiogenesis Phenotypes at the Gene Expression Level Using cDNA Microarrays. The Physiological Genomics of Cardiovascular Disease: From Technology to Physiology. San Francisco, CA. The Physiologist 45, 76.

182. Kleinert LB, Berman SS and WILLIAMS SK: March 2002. Comparison of Autologous Minced Fat and Isolated Fat-derived Microvessel Endothelial Cells for Sodding of ePTFE Vascular Grafts. International Society for Applied Cardiovascular Biology.

181. WILLIAMS SK, Kleinert L, Patula V, Arzouman D and Berman S: March 2002. Blood Flow Regulated Neointima Formation in Tissue Engineered Vascular Grafts. International Society for Applied Cardiovascular Biology.

180. Kidd KR, Cress AE, Nagle RB and WILLIAMS SK: March 2002. Stimulated Angiogenesis and Neovascularization Associated with Porous Polymers. International Society for Applied Cardiovascular Biology.

179. Schwartz MA, Stone A, WILLIAMS SK and Hoying JB: March 2002. Angiogenesis-related Gene Expression During Healing Associated with Polymer Implants. International Society for Applied Cardiovascular Biology.

178. Kellar RS, Larson D, Lundeen T, Landeen LK, Ratcliffe A and WILLIAMS SK: 2001.

Cardiac Function Following Acute Infarction: Effect of Human Fibroblast Epicardial Patch. Heart Failure Society of America Annual Conference.Winner: Jay N. Cohn Clinical/Integrative Physiology New Investigator Award

177. WILLIAMS SK, Kleinert L, Yurkana P: 2001. Comparative Healing Response of Next Generation Prosthetic Materials with Current Prosthetic Materials in the Abdominal Wall. International Congress of the European Hernia Society.

176. Kidd KR, Dal Ponte DB, Nagle RB, Cress AE and WILLIAMS SK: 2001. The Role of Laminin 5 in In vitro Endothelial Cell Attachment and In vivo Healing Responses Associated with Surface Modified ePTFE. Surfaces in Biomaterials Meeting. Winner: David J. Lee Student Award for Excellence in Student Research.

175. Powis S, Kidd K, WILLIAMS SK: 2001. Orthogonal Polarization Spectral Imaging of Microvascular Responses to Biomaterial Implants. Experimental Biology.

174. Kidd K, Nagle R, WILLIAMS SK: 2001. Human Microvessel Endothelial Cell Interaction with Laminin 5. Experimental Biology.

173. Trudel J, LaBerge M, Kleinert LB, Patula VB, WILLIAMS SK, Shalaby SW and Massia SP: 2001. Absorbable Gel-former Modulates Vascular Profile around ePTFE Implants. Society for Biomaterials.

172. Trudel J, LaBerge M, Kleinert LB, Patula VB, WILLIAMS SK and Massia SP: 2001. Polysaccharide Hydrogels Improve Hemocompatibility of Small-diameter ePTFE Vascular Grafts. Society for Biomaterials.

171. Kidd K, Dal Ponte DB, Kellar RS, WILLIAMS SK: 2001. A Comparative Evaluation of Porous Material Implant Healing in Rat and Mouse. Society for Biomaterials.

170. Rigby PH, Simon BR, Morgan NR, WILLIAMS SK: June 2001. Determination of Mechanical and Fluid-species Transport Properties for Soft Tissues. American Society of Mechanical Engineers.

169. Nichol JW, Simon BR, WILLIAMS SK: June 2001. One-dimensional Mixed Poroelastic-Transport-swelling (MPHETS) Finite Element Models for Soft Tissues. American Society of Mechanical Engineers.

168. Szivek JA, WILLIAMS SK, Cordaro N, Mermelstein JM, Neville R: September 2000. In vitro Performance of Coatings Used to Bond Strain Gauges to Bone. Surfaces in Biomaterials Society.

167. Landeen L, Kellar R, Naughton G, Ratcliffe A, WILLIAMS SK: May 2000. Use of Dermagraft as an Epicardial Patch to Induce New Blood Vessels in Ischemic Cardiac Tissue. AHA North American Vascular Biology 1st conference on Artherisclerosis, Thrombosis and Vascular Biology.

166. Alexander H, Garcia A, Kern A, Landeen L, Ong S, Sotoudeh M, Dal Ponte D, WILLIAMS SK, Ratcliffe A: May 2000. In vivo Evaluation of an Endothelialized Tissue Engineered Vascular Graft. AHA North American Vascular Biology 1st Conference on Artherisclerosis, Thrombosis and Vascular Biology.

165. Kern A, Sotoudeh M, Hawley S, Chien S, Garcia A, Landeen L, Symons K, Dal Ponte D, WILLIAMS SK, Ratcliffe A: March 2000. Fluid Induced Shear Stress Enhances Endothelial Cell Attachment to Tissue Engineered Vascular Grafts. 7th Biennial meeting of the International Society for Applied Cardiovascular Biology.

164. Zaetta JM, Dal Ponte DB, Kleinert LB, Patula V, Cook KB, WILLIAMS SK: March 2000. The Healing Characteristics Associated with Stents and Stent Grafts in an Atherosclerotic Porcine Model. 7th Biennial Meeting of the International Society for Applied Cardiovascular Biology.

163. Kidd KR, Kellar RS, Nagle RB, WILLIAMS SK: March 2000. Extracellular Matrix Driven Vascularization of Porous Material. 7th Biennial meeting of the International Society for Applied Cardiovascular Biology.

162. Kellar RS, Kern A, Landeen L, Naughton G, Ratcliffe A, WILLIAMS SK: March 2000. Dermagraft Epicardial Patch Stimulates Angiogenesis in Ischemic Heart Tissue. 7th Biennial meeting of the International Society for Applied Cardiovascular Biology.

161. Patula VB, Kellar RS, Kleinert LB, Salzmann DL, Berman SS, WILLIAMS SK: March 2000. Inflammatory Activity of Polyethyleneterephthalate Materials Used for Endovascular Grafts. 7th Biennial meeting of the International Society for Applied Cardiovascular Biology.

160. WILLIAMS SK, Kleinert LB, Martakos P, Lane J, Karwoski T: May 2000. Dual Porosity ePTFE for Skin Augmentation. Sixth World Biomaterials Congress hosted by the Society for Biomaterials.

159. WILLIAMS SK, Kleinert LB, Patula VB, Clapper DL: May 2000. Accelerated Endothelialization of Vascular Grafts. Sixth World Biomaterials Congress hosted by the Society for Biomaterials.

158. Kleinert LB, Patula VP, Gray PN, Mueller EP, Barenberg SA, WILLIAMS SK: May 2000. Evaluation of an Antimicrobial Coating for Implantable Devices. Sixth World Biomaterials Congress hosted by the Society for Biomaterials.

157. Kidd KR, Dal Ponte DB, Tavlarides DM, Nagle RB, Cress AE and WILLIAMS SK: May 2000. Augmented Endothelial Cell Adherence to Surface-modified Porous Materials. Sixth World Biomaterials Congress hosted by the Society for Biomaterials.

156. Kidd KR, Patula VB, WILLIAMS SK: May 2000. Accelerated Endothelialization of 1mm Vascular Grafts: 1999. Sixth World Biomaterials Congress hosted by the Society for Biomaterials.

155. WILLIAMS SK, Kleinert LB, Patula VB and Clapper DL: 1999. Accelerated Neovascularization and Endothelialization of ePTFE Vascular Grafts. Surfaces in Biomaterials annual meeting.

154. Kellar RS, Dal Ponte DB, Kidd KR, Kleinert LB, Patula VB and WILLIAMS SK: 1999. Characterization of the Vascular Response Associated with Different Polymer Surfaces. Surfaces in Biomaterials annual meeting.

153. Kleinert LB, Dal Ponte DB, Patula VP, Berman SS and WILLIAMS SK: 1999. Comparison of Healing of Vascular Anastomoses Created with Sutures and Titanium Clips. 15th annual Academy of Surgical Research Conference.

152. Patula VP, Larson DF, Kleinert LB and WILLIAMS SK: 1999. Comparison of Heparin Bonded Bypass Circuits. 15th annual Academy of Surgical Research Conference.

151. Larson DF, Arzouman D, Kleinert LB, Patula V and WILLIAMS SK: 1999. Comparison of Sarns 3M Heparin Bonded to Control Bypass Circuits in the Porcine Model: Macro- and Microanalysis of Thrombus Formation. American Academy of Cardiovascular Perfusion.

150. Kellar RS and WILLIAMS SK: 1998. Microvasculature around Polymer Implants. Microcirculatory Society/Experimental Biology ‘99 meeting.

149. Simon BR, Liu J, Nichol J, Kaufmann MV and WILLIAMS SK: 1998. Mixed Porohyperelastic Theory and Finite Element Models for Soft Hydrated Biological Tissues. 1999 ASME/AIChE/ASCE/BMES summer bioengineering conference.

148. WILLIAMS SK: 1998. Stimulated Endothelization of Porous Polymers. 25th Annual Meeting of the Society for Biomaterials.

147. Kidd KR, Nagle RB and WILLIAMS SK: 1998. Stimulated Neovascularization of Non-degradable Porous Polymers. 25th Annual Meeting of the Society For Biomaterials.

146. Boswell CA, Noecker RJ, Mack M, Snyder RW and WILLIAMS SK: 1998. An Aqueous Drainage Device Manufactured with ePTFE. 25th Annual Meeting of the Society for Biomaterials.

145. Berman SS, Dal Ponte D and WILLIAMS SK: 1998. The Healing Characteristics of Low Profile Talent® Endoluminal Grafts. International Congress XII on Endovascular Interventions.

144. Gentile AT, Mills JL, Gooden MA, Hagerty RD, Berman SS, Hughes JD, Kleinert LB and WILLIAMS SK: 1998. Reduction in Neointimal Thickening Associated with Prosthetic Graft Implantation: An Immunohistologic Analysis of Conventional and Vein-patched Anastomoses. The South Western Surgical Congress annual meeting.

143. Dal Ponte D, Berman SS, WILLIAMS SK, Kleinert LB and Patula VB: 1998. Comparison of Healing of Vascular Anastomoses Created with Sutures and Titanium Clips. Western Vascular Society.

142. Phillips MR, Yamuguchi H, WILLIAMS SK, Miller VM and Schaff HV: 1998. Endothelial Sodding of a Novel Prosthetic Coronary Artery Bypass Graft. Society of Thoracic Surgery annual meeting.

141. Hagerty RD, Salzmann DL, Kleinert LB and WILLIAMS SK: 1998. Macrophage Populations and Proliferation within Chronic Inflammation around Implanted Vascular Graft Materials. International Society for Applied Cardiovascular Biology sixth biennial meeting. Cardiovasc Path 7:291, 1998.

140. WILLIAMS SK, Kleinert LB, and Patula VB: 1998. Accelerated Endothelialization of ePTFE Vascular Grafts Promoted by Extracellular Matrix Proteins. International Society for Applied Cardiovascular Biology sixth biennial meeting. Cardiovasc Path 7(6):327, 1998.

139. Clapper D, Hagan KM, WILLIAMS SK and Kleinert LB: 1998. Vascular Grafts Coated with ECM Proteins Promote In vivo Endothelialization. International Society for Applied Cardiovascular Biology sixth biennial meeting. Cardiovasc Path 7(5):283, 1998.

138. Dal Ponte D, Berman SS, Kleinert LB, Patula VB and WILLIAMS SK: 1998. Healing Associated with the Talent® Endovascular Graft. International Society for Applied Cardiovascular Biology sixth biennial meeting. Cardiovasc Path 7(5):292, 1998. Winner: Young Investigator’s Award.

137. Dal Ponte D, Salzmann DL and WILLIAMS SK: 1998. Cytokine Expression by Cells Associated with Synthetic Vascular Graft Material. Inernational Society for Applied Cardiovascular Biology sixth biennial meeting. Cardiovasc Path 7(5):290, 1998.

136. Kellar RS, Smith RG, Arzouman DA, Copeland JG and WILLIAMS SK: 1998. Healing Associated with Polymers of the Artificial Heart. International Society for Applied Cardiovascular Biology sixth biennial meeting. Cardiovasc Path 7(5):293, 1998.

135. Kleinert LB, WILLIAMS SK, Clapper DL and Hagen KM: 1998. Extracellular Matrix Proteins Stimulate Neovascularization of Polymer. International Society for Applied Cardiovascular Biology sixth biennial meeting. Cardiovasc Path 7(6):334, 1998.

134. Wessells H and WILLIAMS SK: 1998. Endothelial Cell Transplantation into the Corpus Cavernosum: Basis for Efficient Gene Therapy for Erectile Dysfunction. American Urological Association annual meeting.

133. Kidd KR, Kellar RS, Salzmann DL, Nagle RB, and WILLIAMS SK: 1998. Effect of Cell Mediated Modification of Porous Implants on Neovascularization. Society for Biomaterials annual meeting.

132. Kellar RS, Kleinert LB and WILLIAMS SK: 1997. Healing Associated with Biomedical Implants on the Epicardial Surface. Society for Biomaterials annual meeting.

131. Yee DC, Salzmann DL, WILLIAMS SK and Berman SS: 1997. Evaluation of the Effects of Structural Characteristics of ePTFE and Tissue Environment on the Inflammatory Response to ePTFE Implants. Society of Cardiovascular & Interventional Radiology 23rd annual meeting.

130. Boswell CA and WILLIAMS SK: 1997. Biocompatibility of ePTFE Increases after Denucleation. Surfaces in Biomaterials.

129. WILLIAMS SK, Clapper DL, Kleinert LB and Hagen KM: 1997. Extracellular Matrix Proteins Stimulate Neovascularization of Polymers. Surfaces in Biomaterials.

128. Kellar RS, Kleinert LB, Arzouman DA and WILLIAMS SK: 1997. Healing Associated with Biomedical Implants on the Epicardium. American Heart Association 70th Scientific Sessions.

127. Arzouman DA, Kleinert LB, Patula VB, Phillips M, WILLIAMS SK and Copeland JG: 1997. Endothelial Cell Sodding of ePTFE Coronary Artery Bypass Grafts. American Heart Association 70th Scientific Session.

126. Boykin SLB and WILLIAMS SK: 1997. Differential Healing to ePTFE Implants in Young vs. Old Male Spraque-dawley Rats. American Heart Association 70th Scientific Sessions.

125. Gentile AT, Mills JL, Gooden MA, Hagerty RD, Berman SS, Kleinert LB, Hughes JD and WILLIAMS SK: 1997. Reduction in Neointimal Thickening Associated with Prosthetic Graft Implantation: An Immunohistologic Analysis of Conventional and Vein-patched Anastomoses. Western Vascular Society annual meeting.

124. Arzouman DA, Kleinert LB, Patula VB, Phillips M, WILLIAMS SK and Copeland JG: 1997. Endothelial Cell Sodding of Alternative Coronary Artery Bypass Graft. Eighth Annual Arizona Cardiovascular & Stroke Update.

123. Salzmann DL, Patula VB, Yee DC, Roach DJ, Berman SS and WILLIAMS SK: 1997. Model for the Analysis of Endovascular Stents and Endovascular Grafts. 13th annual meeting of the Academy of Surgical Research.

122. Gentile AT, Mills JL, Gooden MA, Westerband A, Berman SS, Boswell CA, Hunter GC and WILLIAMS SK: 1997. Characterization of Cellular Density and Determination of Neointimal Extracellular Matrix Constituents in Human Lower Extremity Vein Graft Stenoses. The Society for Vascular Surgery, North American Chapter and International Society for Cardiovascular Surgery.

121. Stopeck AT, Hersh EM, Funk C and WILLIAMS SK: 1997. Endothelial Cells Genetically Modified to Produce Gamma Interferon Inhibit Tumor Growth in SCID Mice. Sixth International Conference on Gene Therapy.

120. Stopeck AT, Hersh EM, Funk C and WILLIAMS SK: 1997. A Novel SCID Mouse Model for Human Tumor Neoangiogenesis. International Society on Thrombosis and Haemostasis meeting.

119. Boswell CA, Gasdaska JR, Powis G and WILLIAMS SK: 1997. Thioredoxin Inhibits Angiogenesis and Microvascular Endothelial Cell Growth. Vascular Biology. Microcirculation 4:146.

118. Bellamy WT, Parris P, Raymond MA, WILLIAMS SK and Boswell CA: 1997. Anti-angiogenic Activity of Paclitaxel (Taxol) as Assessed Using a Novel 3-dimensional in Vitro Assay of Angiogenesis. Experimental Biology meeting.

117. Hagerty RD, Salzmann DL, Kleinert LB and WILLIAMS SK: 1997. Differential Microvascular Responses in the Abluminal and Anastomotic Sites of ePTFE Grafts. Vascular Biology. Microcirculation 4:141.

116. Salzmann DL, Yee DC, Roach DJ, Berman SB and WILLIAMS SK: 1997. Microvessel Formation around Endovascular Stent-grafts Placed in the Iliac Artery. Vascular Biology. Microcirculation 4:141.

115. Stopeck AT, Hersh EM, Funk C and WILLIAMS SK: 1997. A Novel SCID Mouse Model for Human Tumor Neoangiogenesis. AACR meeting.

114. Salzmann DL, Kleinert LB, Berman SS and WILLIAMS SK: 1997. Neovascularization and Inflammation Associated with Clinically Used Vascular Prostheses. Society for Biomaterials annual meeting.

113. WILLIAMS SK, Kleinert LB and Berman SS: 1996. Blood Flow Regulated Neointima Formation in Tissue Engineered Vascular Grafts. Invited Abstract for the Biomedical Engineering Society annual meeting.

112. Wetterlind E, Kleinert LB and WILLIAMS SK: 1996. Optimization of Photography for Specimens Related to Animal Studies. AALAS, AZ conference.

111. Patula V, Kleinert LB and WILLIAMS SK: 1996. Scanning Electron Microscope Evaluation of Sodded and Non-sodded Vascular Grafts. AALAS, AZ conference.

110. Kleinert LB, Patula VP, Fox KA, Jarrell BE and WILLIAMS SK: 1996. Canine Model to Evaluate the Thrombogenicity of Endothelialized Arterial-venous Shunts. AALAS, AZ conference.

109. WILLIAMS SK, Jarrell BE, Kleinert LB and Berman SS: 1996. Accelerated Endothelialization of ePTFE Arterial-venous Shunts. Cell Transplant Society.

108. Westerband A, Mills J, Marek J, Heimark R, Hunter G and WILLIAMS SK: 1996. Immunocytochemical Determination of Cell Type and Proliferation Rate in Human Vein Graft Stenosis. International Society of Cardiovascular Surgery/Society of Vascular Society Conference.

107. Westerband A, WILLIAMS SK, Kleinert LB, Berman SS, Boswell C and Mills J: 1996. Patterns of Proliferation after Endothelial Cell Transplantation onto Polymeric Arteriovenous Grafts in a Canine Model. International Society of Cardiovascular Surgery/Society of Vascular Society.

106. Salzmann DL, Yee N, Berman SS and WILLIAMS SK: 1996. Effects of Balloon Dilation on Graft Structure and Healing of Standard ePTFE. The American Society for Artificial Internal Organs Conference.

105. Dominic YEE, WILLIAMS SK, Berman SS, Pond G, Salzmann DL and Roach DJ: 1996. Stent vs. Endovascular Graft Healing Characteristics the Porcine Iliac Artery. Radiological Society of North America.

104. Stopeck AT, Funk C, Raymond M, Hersh EM, Yang NS, Burkholder J and WILLIAMS SK: 1996.Particle Bombardment Mediated Gene Transfer into Microvessel Endothelial Cells (MVECS). Microcirculatory Society Conference.

103. Carter WB, Crowell S, CA Boswell and WILLIAMS SK: 1996. Stimulation of Angiogenesis by Canine Parathyroid Tissue. American Association of Endocrine Surgeons Conference.

102. WILLIAMS SK, Raymond MA and Kleinert LB: 1996. Human Clinical Trials of Microvascular Endothelial Cell Sodding of Vascular Grafts. International Society for Applied Cardiovascular Biology Conference.

101. Salzmann DL, Kleinert LB, Berman SS and WILLIAMS SK: 1996. Effects of Porosity on Endothelialization of ePTFE Implanted in Subcutaneous and Adipose Tissue. International Society for Applied Cardiovascular Biology Conference.

100. Boswell CA and WILLIAMS SK: 1996. Angiogenesis in Vitro is Blocked by the Anti-tumor Drug, Suramin, and by the Matrix Protein, Thromospondin. Microcirculatory Society Conference.

99. WILLIAMS SK, Salzmann D and Kleinert LB: 1996. Angiogenic Response to Biomaterials is Implant Site Dependent. Microcirculatory Society Conference.

98. Carter WB, Boswell CA, Crowell SL and WILLIAMS SK: 1996. Her-2/neu Expression Enhances Endothelial Cell Retraction, a Mechanistic Step in Breast Cancer Cell Transmigration. Experimental Biology Conference.

97. Boswell CA and WILLIAMS SK: 1996. Angiostatin does not Block Angiogenesis in a Novel in Vitro 3-D Angiogenesis Model. Experimental Biology Conference.

96. Manciet LH, Copeland JG, Chavez RA, Aboutalebi A, Reimer PR and WILLIAMS SK: 1996. Development of Neointimal Hyperplasia in Balloon-injured Carotid Arteries of Normal and Streptozotocin (STZ)-induced Diabetic Rats. Experimental Biology Conference.

95. Berman SB, Bernhard V, WILLIAMS SK, Carabasi RA, Park PK and Jarrell BE: 1996. Infrageniculate Bypass for Limb Salvage using Polytetrafluoroethytlene Sodded with Microvascular Endothelial Cells. Western Vascular Society.

94. Salzmann D, Kleinert LB, Berman S and WILLIAMS SK: 1995. Endothelialization of Biomaterials. Physiological Sciences Spring Poster Session, Tucson, AZ.

93. Kleinert LB, Berman SS and WILLIAMS SK: 1995. Comparison of Autologous Minced fat and Isolated Microvessel Endothelial Cells for Sodding ePTFE Vascular Grafts. Academy of Surgical Research.

92. Patula V, Butler KC, Kleinert LB, Raymond MA and WILLIAMS SK: 1995. Morphological Evaluation of Aspirin and Dipyridamole of Platelet Deposition in 1mm ePTFE Grafts. Academy of Surgical Research.

91. Ritter LR, Wilson DS, Davis-Gorman G, WILLIAMS SK, Copeland JG and McDonagh PF: 1995. During Reperfusion after Myocardial Ischemia, Reduced Blood Flow Enhances Leukostasis in the Coronary Microcirculation. American Heart Association, National Scientific Session.

90. Fox KA, Sarfati MR, Copeland JC, WILLIAMS SK and McDonagh PF: 1995. Hypothermic Preservation Protects Isolated Coronary Microvascular Endothelium from Intercellular Adhesion Molecule-1 Expression. 7th Annual Resident Research Symposium, Department of Surgery, University of Arizona.

89. Fox KA, Sarfati MR, Copeland JG, WILLIAMS SK and McDonagh PF: 1995. Hypothermic Preservation Protects Isolated Coronary Microvascular Endothelium from Intercellular Adhesion Molecule-1 Expression. American Heart Association, National Scientific Session.

88. Fox KA, Sarfati MR, Copeland JG, WILLIAMS SK and McDonagh PF: 1995. Hypothermic Preservation Protects Isolated Coronary Microvascular Endothelium from Intercellular Adhesion Molecule-1 Expression. American Heart Association, AZ Session.

87. Nelson TL, Hoying JB and WILLIAMS SK: 1995. Quantification of Microvessel Fragments in 3-D Culture using Fractal Analysis. Physiological Sciences Spring Poster Sessions.

86. Stopeck A, Vahedian M, Jolly D and WILLIAMS SK: 1995. Genetically-modified Endothelial Cells in Vascular Biology. Arizona Health Sciences Center Cancer Center Science Fair.

85. Ritter L, Wilson D, WILLIAMS SK, Copeland J and McDonagh PF: 1995. Early in Reperfusion Following Myocardial Ischemia, Leukocyte Activation is Necessary for Venular Adhesion but not Capillary Retention. Microcirculatory Society.

84. Boswell CA and WILLIAMS SK: 1995. Endothelial Cell Junction Protein Distribution in an in Vitro Model of the Blood-brain Barrier. Microcirculatory Society.

83. Boswell CA and WILLIAMS SK: 1995. Characterization of Endothelial Cytoskeletal Elements in Microvessel Fragments Growing in Three-dimensional Collagen Gels. Experimental Biology.

82. Hoying JB and WILLIAMS SK: 1995. Measurement of Endothelial Cell Migration using a Linear Migration Assay. Microcirculatory Society.

81. Ritter L, Wilson D, Copeland J, WILLIAMS SK and McDonagh P: 1995. Pentoxifylline Reduces Coronary Capillary Leukostasis following Myocardial   
Ischemia. Experimental Biology.

80. Carter WB, Hoying JB, Powis G and WILLIAMS SK: 1995. Her-2/neu Expression Enhances the Metastatic Potential in MCF-7 Breast Cancer Cells. American Society for Cell Biology.

79. McDonagh PF, Wilson D, Iwamura H, Manciet L, WILLIAMS SK, Smith CW and Copeland JG: 1995. Following Myocardial Ischemia, the Protective Effect of CL26 Treatment against CD-18 is not Due Solely to Maintaining Coronary Blood Flow. Experimental Biology.

78. Raymond MA and WILLIAMS SK: 1994. Exposure of Endothelial Cells to ePTFE or PET Induces Increased ICAM-1 Expression. Frontiers in Biomedical Engineering.

77. Raymond MA, McDonagh PF and WILLIAMS SK: 1994. Endothelial cells maintained on ePTFE, PET or TCP display increased leukocyte adhesion molecule expression. Society for Leukocyte Biology.

76. Berman SS, Jarrell BE, Raymond MA, Kleinert LB and WILLIAMS SK: 1994. A Prospective Study of Polytetrafluoroethylene Dialysis Grafts Sodded with Microvascular Endothelial Cells. Ohio State University Dialysis Access Symposium.

75. WILLIAMS SK: 1994. Leukocyte Interaction with Vascular Endothelium In vitro. Frontiers of Biomedical Engineering.

74. Ritter L, Wilson DS, Copeland JG and WILLIAMS SK: 1994. During Reperfusion, Coronary Capillary Leukostasis is Significantly Reduced by Pentoxifyline. 67th Scientific Session, American Heart Association.

73. Sarfati MR, McDonagh P and WILLIAMS SK: 1994. Enhanced ICAM-1 Expression in Coronary Versus Fat-derived Microvascular Endothelium. 67th Scientific Sessions, American Heart Association.

72. Fox KA, Sarfati MR, WILLIAMS SK and McDonagh PF: 1994. Effect of Isolation and Fluorescent Labeling on Human Neutrophil Adhesion. Experimental Biology.

71. Sarfati MR, PF McDonagh and WILLIAMS SK: 1994. A comparison of ICAM-1 expression in fat and coronary microvessel endothelium. Experimental Biology.

70. Hoying JB and WILLIAMS SK: 1994. Reduced adhesion of human microvascular endothelial cells to collagen I in response to basic fibroblast growth factor is mediated by ß1 integrin. Experimental Biology.

69. Kleinert LB and WILLIAMS SK: 1994. Quantitative differentiation of hyperplasia and hypertrophy during neointima formation in sodded vascular graft. Experimental Biology.

68. Raymond MA, R Castrillo and WILLIAMS SK: 1994. Immunocytochemical and scanning electron microscopic characterization of human, canine and rat adipose tissue and microvascular endothelial cell isolates. Experimental Biology.

67. WILLIAMS SK, MR Sarfati and PF McDonagh: 1994. Direct observation of leukocyte migration across endothelial monolayers using total internal reflectance fluorescence microscopy. Experimental Biology and NAVBO.

66. Hoying JB and WILLIAMS SK: 1994. Differential effects of growth factors on in vitro angiogenesis in 3-dimensional culture. Microcirculatory Society.

65. Ritter L, D Wilson, WILLIAMS SK, J Copeland, P McDonagh: 1994. Early in reperfusion following myocardial ischemia leukocytes are retained in both coronary capillaries and postcapillary venules - direct observations. Microcirculatory Society.

64. Hoying JB, BR Rueda, PB Hoyer and WILLIAMS SK: 1994. Conditioned medium from disrupted ovine corpora lutea inhibits endothelial cell proliferation. Microcirculatory Society.

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