AWARDS

2015 International Atherosclerosis Society (IAS), Visiting Feinscd ( )Tj -0.013(ds)34(i)ELÁ!–À4.0Ñ Colorado Clinical and Translational

2008 Defense Advanced Research Pro

2007 The Children's Hospital (TCH), Res

2006 Junior Faculty Development Awar

2002 American Vacuum Society (AVS),

EDUCATION

01/1999-01/2003	Ph.D. in Bioengineering, University of Illinois at Chicago
01/1999-07/2001	M.S. in Bioengineering, University of Illinois at Chicago
09/1993-07/1997	B.S. in Biochemical Engineering, East China University of Science and Technology

MEMBERSHIP/PROFESSIONAL AFFILIATIONS

American Heart Association (AHA), American Society for Mechanical Engineers (ASME) – Bioengineering Division, Biomedical Engineering Society (BMES), Society for Biomaterials (SFB), Material Research Society (MRS),

18. C.Y. Xu; C. Vinegoni; T. Ralston; W. Luo; W. Tan; S. A. Boppart. “Spectroscopic spectral-domain optical coherence microscopy”. ***Optics Letters***, 31: 1079-1081, 2006
19. W. Tan; A. Oldenburg; J. Norman; T. Desai; S.A. Boppart. “Imaging Cellular Responses to Mechanical Stimuli within Three-Dimensional Tissue Constructs" ***Microscopy Research and Technique***. 70:361–371, 2007
20. W. Tan, D.E. SCOTT, D. BELCHENKO, H Qi, L. Xiao. ”Development and Evaluation of Microdevices For Studying Anisotropic Biaxial Cyclic Stretch on Cells”, ***Biomedical Microdevices***, 10 (6): 869-882, 2008
21. M. LI, K. Stenmark, R. Shandas, Shandas 2008

characterizations of a readily available multilayer vascular graft". ***Journal of Biomedical Material Research***, 101(4):506-19, 2013 (PMID:23165922)
37. D.J. GUO*, H. Zhang, S.M. Fang, Z.D. Dai, W Tan. "Fabrication and adhesion of bio-inspired microarray: Capillarity-induced cast using porous silicon mold". ***Journal of Materials Chemistry B***, 1, 379-386, 2013
38. M. LI, Y. TAN, K.R. Stenmark, W. Tan. "High Pulsatility Flow Induces Endothelial Inflammation through Overpolarizing Cells to Activate NF-<kappa>B". ***Cardiovascular Engineering and Technology***, 4(1):26-38, 2013. (PMID: 23667401)
39. Z. Su, K. Hunter, W. Tan, R. Shandas. "Influence of distal resistance and proximal stiffness on hemodynamics and RV afterload in progression and treatments of pulmonary hypertension: a computational study with validation using animal models", ***Computational and Mathematical Methods in Medicine***, 618326: 1-12, 2013
40. K. WINGATE, M. FLOREN, Y. TAN, P-O. TSENG, W Tan. "Synergism of matrix stiffness and vascular endothelial growth factor on mesenchymal stem cells for vascular endothelial regeneration", ***Tissue Engineering Part A***. 20(17-18):2503-12, 2014. (PMID: 247020)
41. W Tan, K. MADHAVAN, D. Park, K.R. Stenmark. "Vascular Stiffening in Pulmonary Hypertension: Cause or Effect?" ***Pulmonary Circulation***, 4(4): 560-580, 2014
42. M. FLOREN, W Tan. "Three-dimensional, soft neotissue arrays as high throughput platforms for the interrogation of engineered tissue environments", ***Biomaterials***, 59: 39-52, 2015 (PMID: 25956850)
43. D.J. Guo, Z.Y. Wei, H. Zhang, S. M. Fang, W. ELLIOTT, W Tan. "Reverse adhesion of a gecko-inspired synthetic adhesive switched by an ion-exchange polymer-metal composite actuator". ***ACS Applied Materials & Interfaces***, 7 (9), 5480–5487, 2015 (PMID: 25723[illegible])

Composition, Stiffness, and Structure", ***Advanced Healthcare Materials.*** 6: 1601426, 2017
54. S. Sharma, M. FLOREN, Y. DING, KR Stenmark, W. Tan, S. Bryant *. "A photoclickable peptide microarray platform for facile and rapid screening of 3-D tissue microenvironments." ***Biomaterials***.143:17-28, 2017.
55. B.S. Hays, M. Baker, A. Laib, W.

dimensional collagen gels", ***Proceedings of the IEEE Engineering in Medicine and Biology***, 2: 1509-1524, 2000
71. L. J. Fahrner, W. Tan, C. Vinegoni, T. E. Eurell, S.A. Boppart. "Structural and Functional Imaging of Engineered Tissue Development using an Integrated OCT and Multi-Photon Microscope", ***Proc. SPIE***, 5319: 1-10, 2004
72. W. TanFuy.8 (oppar)-6.1 (t)-6.7 (.)]TJ 0 Tc 0 Tw 3.685 0 Td ( )Tj 0.024 T Td [(B) 0.0s93 0 Td (1)Tj 0.815 0 Td (

2019

Patents :

“Microfluidic Patterning/Layering of Biopolymers for 3D

dimensional engineered tissues" European Conference on Biomedical Optics, Munich, Germany, June 2005
16. V. TSVANSKI, D.E. SCOTT, C.J. ROCKNE, L. Xiao, H Qi, W. Tan. "Study of cell anisotropic micro/nanomechanics with a polymer MEMS-based device." 15th U.S. National Congress on Theoretical and Appl1 /TT3 1 Tf -0.01C (h,)]TJ .3 (ne)]-17.1o [(J)-131.228 543 0 Td [2.9350 Tw 1.272 0 Td Tc

Minneapolis, MN, April 5-8, 2017

72. Y DING, W Tan. “A 3D microtissue array platform for high content screening of vascular drugs”. ASME - Summer Bioengineering Conference, June 17-22, Tuscon, Arizona, 2017
73. Y DING, H YING, X Yin, W Tan. “Orthogonally Programmable Stiffness and Geometry in 3D Hydrogel Microstructures by Digital Projection Stereolithography”, Society for Biomaterials, Atlanta, GA, April 11-14, 2018

INVITED SEMINARS (Since 2013):

“Microphysiological Vascular Systems: New Platforms for Studying Vascular Regeneration and Remodeling.” University of Illinois at Chicago, March 2013

“Microphysiological Vascular Systems: New Platforms for Studying Vascular Regeneration and Vascular Remodeling.” Colorado State University, April 2013

“Engineered Vascular Systems: Towards Understanding of Vascular Regenerative or Pathogenic Processes.” University of Cincinnati, September 2013

“Engineered Vascular Systems: Towards Understanding of Vascular Processes.” University of Texas at A &M, December 2013

“Engineered Vascular Systems: Towards Understanding of Vascular Regenerative or Pathogenic Processes.” CVP conference, February 2014

“Engineering Microenvironments To Regulate Cell Fate for Vascular Therapy”, Southwest Jiaotong University, November 2016

“Engineering Microenvironments To Regulate Cell Fate for Vascular Therapy”, Sichuan University, November 2016

‘Engineering Microenvironments To Regulate Cell Fate for Vascular Therapy’, University of Arizona, June 2017

RESEARCH AND EDUCATIONAL SUPPORT

Current and Past Research Support

NIH – NHLBI 2R01 HL119371-06A1 Role: PI
Title: Synthetic Mesenchymal Stem Cell Niches for Vascular Therapy
9 /1/2019 – 7/31/2024

American Heart Association – 19TPA34850168 Role: PI
Title: Transformation Project - Precision PAH model for treatment evaluation
7/1/2019 – 6/30/2022

(PAST)

NIH (NIGMS) - Wyoming INBRE Role: Mentor (PI: Maysam Mousaviraad)
Title: Computational FSI Modeling for Heart Failure Treatment with Titin Manipulation
05/01/18 – 04/30/19

NIH – NHLBI R01 HL119371 Role: PI
Title: Synthetic Mesenchymal Stem Cell Niches for Vascular Therapy
8/01/13 – 6/30/19 (NCE)

The Children’s Hospital Fund Role: PI
Title: Mimetic Fontan Circulation for Improved Surgical Design

08/15/17 – 08/15/18

American Heart Association – 12GRNT16990019 Role: PI
Title: Stiffening-induced Pulmonary Vascular Remodeling
7/01/13– 6/30/15

NIH – NHLBI K25 HL097246 Role: PI
Title: Mechanisms of Microvascular Response to Arterial Stiffening and Flow Pulsatility
6/1/10 - 5/31/15

UCB Innovation Seed Grant Role: PI
Title: Novel Toolset Using Dynamic Nano-featured Substrata for Cell Mechanotransduction Study
7/1/14 – 6/30/16

International Atherosclerosis Society - IAS Fellowship Award Role: PI
Title: Niche Environments for Fate of Endothelial Progenitor Cells in Atherosclerotic Artery
5/01/16– 8/30/16

Bioscience Discovery Evaluation Grant Role: PI
Title: Multilayer bionanocomposite vascular graft: early and long-term access for dialysis access
8/1/09 – 8/24/12

Burroughs Welcome Fund (BWF), Collaborative Research Travel Award Role: PI
Title: Nanomaterial-based Endothelial Regeneration for Hemodialysis Vascular Access
1/01/12– 12/31/12

American Heart Association – Scientist Development Award Role: PI
Title: Effects of proximal pulmonary arterial stiffening on distal microvascular endothelial cell activation
7/01/09 - 6/30/10 (Funded for 4 years, but I chose to exit earlier because of the AHA policy on co-funding with NIH)

NSF – IDBR Role: co-PI/collaborator (PI: R. Jimenez)
Title: Collaborative R-6 ( )02.6 (i)13.5.065 10.4 (BR3 Tc 0.013 Tw 0.2272 00.013 Tw 0.22:)Tj 1.0.ofcocoDRR3 T

DARPA iMINT Center Seed Grant Role: PI (co-PI: Y.C. Lee)
Title: Highly selective and highly sensitive CNT biosensor
4/1/07 – 5/30/08

Past Education Support

Funding: Engineering Excellence Fund – UCB Role: PI
Title: Delivery of the NCF to Engineering Education (4/1/07-3/30/08)

Funding: Engineering Excellence Fund – UCB Role:co-PI (PI: Virginia Ferguson)
Title: Integration of new mechanical engineering biolab into bioengineering curriculum (5/1/2006 - 4/30/2007)

TEACHING ACTIVITIES

Courses instructed or developed:

- MCEN 4228/ 5228, Materials in Medicine, 3 credits
  Spring 2007 (44 students), Spring 2008 (36

Applications
Current position: Medical Device Design and Consultant, Twomey Consulting
Staff Development Engineer, Covidien Ltd.

- Hang Yin (co-advisee), Aug 2015 – May 2017; MS student, Thesis Topic: Three-dimensional printing for microvascular engineering
  Current position: Automation Engineer, Tamaki Control
- Monica Iglesias , Aug 2016 – Dec 2018; MS student, Thesis topic: Coaxially Structured PEG-PCL Composite for Vascular Grafting
  Current position: Engineer, TerumoBCT

Mentors to Undergraduate Researchers (through UROP, SMART, HHMI, or other programs)

Christoper Rochne (2005-2006), Aaron Richman (2006-2007), Vadim MSMSM10 T [illegible]

Session chair in “Tissue and Cellular Engineering”, ASME-Bioengineering Conferences, 2011- 2017

Grant Review Service for funding agencies:

NIH study sections: ZRG1 SBIB-V (2009), ZHL1 CSR-P (2013), ZRG1 BST-T02 (2016), ZRG1 SBIB (20152016), BMBI (2017), ZHL1 CSR-I (2018)
NSF panels: BES (2005), CEBT (2007), SBIR/STIR Biomaterials(2010), SBIR/STTR, Tissue Engineering and Regenerative Medicine (2012-2017)
Other Funding Agencies: Kansas City Area Life Sciences Institute, Florida Department of Health, James and Esther King Biomedical Research Program, Bankhead-Coley Cancer Research Program

Service to Peer Review of Manuscripts or Conferences

Peer review of journal publications for: Hypertension, Tissue Engineering, Biomaterials, Biomacromolecules, Langmuir, Macromolecules, Materials Today, Integrated Biology, Journal of Biomechanical Engineering, Journal of Biomedical Materials Research, Biomechanics and Modeling in Mechanobiology, Cellular and Molecular Bioengineering, Acta Biomaterialia, Journal of Biomechanics, ASME-Bioengineering, BioInterfaces, Journal of Bioactive and Compatible Polymer, Sensor & Actuator, Biointerfaces, ACS Biomaterials etc.

Peer review of conference papers or abstracts for: ASME-Bioengineering, Society for Biomaterials, BMES Society

Service to the Department, College or University

Service to the Department:
Graduate Committee (2007-2008, 2013-2015, 2018-2019)
Faculty Search Committee (2009-2010, 2012-2013, 2014-2015, 2016-2017, 2019-2020)
Advisor to Undergraduates in the Biomechanical Engineering track (2010 - 2016)
Undergraduate Student Affairs Committee (2011- 2012, 2016-2017)
Undergraduate Scholarship Committee (2008 – Present)
Bioengineering Minor Task force (2014-2015)
Personnel Committee (2017-2018, 2019-2020)
Task force to initiate Bioengineering Program (2018-2019)

Service to the College and campus of CU-Boulder:
EPRC Committee (2020-)
Affiliated Member on the Material Science and Engineering Program (2013–)
IQ Biology Admissions Committee (2013–)
Search Committee for the Bioengineering position in EECS (2012–2013)
Task Force Member of Biofrontier Institute (2013–2016)

Service to the School of Medicine and the UCD campus:
Bioengineering Primary Unit - Tenure & Promotion Committee (2014 - 2015)
Member on the Vascular Initiative (2013 - 2017)
Fellow on the Translational Cardiovascular Biology (2005 - 2016)
Member on the Colorado Clinical and Translational Science Institute (mainly involved in reviewing proposals)