Alisa Morss Clyne

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Ardmore, PA 19003
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AEL 170C
Philadelphia, PA 19104
(215) 895-2366

EDUCATION

2000 – 2006 **Doctor of Philosophy in Medical and Mechanical Engineering**
Advisor: Elazer R. Edelman, M.D, Ph.D
Harvard-MIT Division of Health Sciences and Technology
Massachusetts Institute of Technology Cambridge, MA
Thesis: Endothelial cells and basement membrane: a co-regulatory unit for fibroblast growth factor-2 in hyperglycemic stress

1997 – 1999 **Master of Science in Mechanical Engineering**
University of Cincinnati Cincinnati, Ohio
Thesis: A statistical cost model for aircraft engine maintenance

1992 – 1996 **Bachelor of Science in Mechanical Engineering**
Stanford University Stanford, CA

PROFESSIONAL EXPERIENCE

2011 – **Assistant Dean for Undergraduate Affairs**
Drexel University, Philadelphia, PA

2008 – 2011 **Assistant Dean for Faculty Development**
Drexel University, Philadelphia, PA

2007 – **P.C. Chou Assistant Professor,** Mechanical Engineering
Drexel University, Philadelphia PA

2007 – **Assistant Professor,** Biomedical Engineering, Science, & Health Systems
Drexel University, Philadelphia PA

2006 **Postdoctoral Associate,** Harvard-MIT Biomedical Engineering Center
Massachusetts Institute of Technology, Cambridge, MA

2000 – 2006 **Research Associate,** Harvard-MIT Biomedical Engineering Center
Massachusetts Institute of Technology, Cambridge, MA

1996 – 1999 **Engineer,** General Electric Technical Leadership Program
GE Aircraft Engines, Cincinnati, Ohio

HONORS AND AWARDS

2011 BMES-SPRBM Rising Star Award
2009 Louis and Bessie Stein Fellow
2008 National Science Foundation CAREER Award
2008 Drexel University International Travel Award
2006 Sigma Xi Scientific Honor Society
2005 Distinguished Service Award, MIT Faculty Committee on Student Life
2004 MIT Carroll Wilson Award
1999 GE Outstanding Engineer Award
1995 Tau Beta Pi
1995 Cap and Gown Stanford Women's Honor Society

1994, 1995	Motorola "Best in Class" Scholarships
1994	Engineering Dean's Leadership Scholarship
1993	National Society of Women Engineers Scholarship
1992	National Society of Professional Engineers Scholarships
1992	National Merit Scholarship
1992	Girl Scout Gold Award

FUNDED RESEARCH

1/2012 – 12/2012 "Aβ peptide and vascular dysfunction in Alzheimer's Disease" Pennsylvania Department of Public Health

9/2011 – 8/2012 "Harnessing the basement membrane for targeted controlled release drug delivery" Louis and Bessie Stein Fellowship

4/2011 – 4/2012 "Mechanical Engineering Summer Diversity Program" Air Products and Boeing

2/2011 – 1/2012 "Targeted nanoparticles for treatment of mammary carcinoma" Drexel-Hebrew University Translational Research Partnership

7/2010 – 6/2014 "Endothelial cell - basement membrane response to strain in high glucose" American Heart Association Scientist Development Grant

9/2010 – 8/2013 "GAANN in Mechanical Engineering and Sciences" Department of Education (PI: Surya Kalidindi)

9/2010 – 8/2011 "EAGER: A Hybrid Nano-Bioprinting System for Tissue Engineering" NSF CMMI-1038769

6/2010 – 5/2013 "iREU in Medicine, Energy, and Advanced Manufacturing" NSF EEC-1005090 (PI: Surya Kalidindi)

9/2009 – 8/2011 "NUE: Integrated Approach to Environmentally Responsible Nanotechnology Education" NSF EEC-0939063 (PI: Mira Olson)

9/2009 – 8/2012 "Collaborative Research: Agent-Monitored Tutorials to Enable On-Line Collaborative Learning in Computer-Aided Design and Analysis" NSF EEC-0935032 (PI: Jack Zhou)

9/2009 – 8/2011 "MRI: Acquisition of 3-D micromanufacturing instruments for bioengineering research at Drexel University" NSF CBET-0923173 (PI: Moses Noh)

7/2009 – 6/2010 "Toxicology of bare and coated iron oxide nanoparticles for vascular applications" The Nanotechnology Institute (PI: Vladimir Muzykantov)

6/2009 – 5/2011 "Design and development of a dielectrophoretic device for cell mechanics" NIH NIBIB 1 R03 EB008854-01

1/2009 – 12/2014 "CAREER- Biochemical and biomechanical interactions within the endothelial cell – basement membrane co-regulatory unit" NSF CBET-0846751

1/2008 – 12/2008 "Vascular complications in diabetes: Effect of high glucose extracellular matrix alterations on angiogenesis" Pennsylvania Department of Public Health

CURRENT INTERESTS:

Microfluidic devices to measure cell biochemical and mechanical responses; Auto-fluorescent mechanosensors; Flow and strain effects on endothelial cell – basement membrane interaction; Endothelial cell – smooth muscle cell interactions in diabetes; Plasma angiogenesis; advanced materials for accelerated wound healing; Nanoparticles for cardiovascular disease; sickle cell interactions with the vascular wall

JOURNAL PUBLICATIONS

Kemeny S, Figueroa D, Morss Clyne A. Both low and high glucose inhibit endothelial cell response to shear stress. *(In review)*

Patel N, Morss Clyne A. A computational model of fibroblast growth factor-2 binding in fluid flow. *(In review)*

Arjunan K, Morss Clyne A. A nitric oxide producing pin-to-hole spark discharge plasma enhances endothelial cell proliferation and migration. *(In review)*

Yu M, Huang S, Yu KJ, Morss Clyne A. (2012) Dextran and polymer polyethylene glycol (PEG) coating reduce both 5 and 30 nm iron oxide nanoparticle cytotoxicity in 2D and 3D cell culture. *International Journal of Molecular Sciences* 13(5): p. 5554-70.

Arjunan K, Friedman G, Fridman A, Morss Clyne A. (2012) Non-thermal dielectric barrier discharge plasma induces angiogenesis through reactive oxygen species. *Journal of the Royal Society Interface* 9(66): p. 147-157.

Arjunan K, Morss Clyne A. (2011) Hydroxyl radical and hydrogen peroxide are primarily responsible for dielectric barrier discharge plasma-induced angiogenesis. *Plasma Processes and Polymers* 8: p. 1154-64.

Kemeny S, Figueroa D, Andrews A, Barbee K, Morss Clyne A. (2011) Glycated collagen alters endothelial cell actin alignment and nitric oxide release in response to fluid shear stress. *Journal of Biomechanics* 44 (10): p. 1927-35.

Figueroa D, Kemeny S, Morss Clyne A. (2011) Glycated collagen impairs endothelial cell response to cyclic stretch. *Cellular and Molecular Bioengineering* 4 (2): p. 220-30.

Kemeny S, Morss Clyne A. (2011) A simplified implementation of edge detection in MATLAB is faster and more sensitive than Fast Fourier Transform for actin fiber alignment quantification. *Microscopy and Microanalysis* 17: p. 156-166.

Dobrynin D, Arjunan KP, Fridman A, Friedman G, Morss Clyne A. (2011) Direct and controllable nitric oxide delivery into biological media and living cells by a pin-to-hole spark discharge (PHD) plasma. *Journal of Physics D: Applied Physics* 44: 075201.

Buyukhatipoglu K, Morss Clyne A.(2011) Superparamagnetic iron oxide nanoparticles change endothelial cell morphology and mechanics via reactive oxygen species formation. *Journal of Biomedical Materials Research Part A* 96A (1): p. 186-195.

Morss Clyne A. Thermal processing of tissue engineering scaffolds. (2011) *ASME Journal of Heat Transfer Special Issue on Advanced Thermal Processing* 133(3): 034001.

Reisig K, Morss Clyne A. (2010) Fibroblast growth factor-2 binding to the endothelial basement membrane peaks at a physiologically relevant shear stress. *Matrix Biology* 29 (7): p. 586-93.

Buyukhatipoglu K, Chang R, Sun W, Morss Clyne A. (2010) Bioprinted Nanoparticles for Tissue Engineering Applications. *Tissue Engineering* 16 (4): p. 631-42.

Meghri NW, Donius AE, Riblett BW, Martin EJ, Morss Clyne A, and Wegst UGK. (2010) Directionally Solidified Biopolymer Scaffolds: Mechanical Properties and Endothelial Cell Responses. *JOM* 62 (7): p. 71-5.

Kalghatgi S, Friedman G, Fridman A, Morss Clyne A. (2010) Low dose non-thermal plasma treatment enhances endothelial cell proliferation through FGF-2 release. *Annals of Biomedical Engineering* 38 (3): p. 748-57.

Buyukhatipoglu K, Morss Clyne A. (2010) Controlled flame synthesis of αFe2O3 and Fe3O4 nanoparticles: effect of flame configuration, flame temperature and additive loading. *Journal of Nanoparticle Research* 12 (4): p. 1495-1508.

Buyukhatipoglu K, Jo W, Sun W, Morss Clyne A. (2009) The role of printing parameters and scaffold biopolymer properties in the efficacy of a new hybrid nano-bioprinting system. *Biofabrication* 1 (3): 035003.

Morss Clyne A, Edelman, ER. (2009) Vascular growth factor binding kinetics to the endothelial cell basement membrane, with a kinetics-based correction for substrate binding. *Cytotechnology* 60 (1): p. 33-44.

Buyukhatipoglu K, Miller TA, Morss Clyne A. (2009) Interaction of superparamagnetic, flame synthesized iron oxide nanoparticles with porcine aortic endothelial cells: toxicity, cellular uptake and proliferation studies. *Journal of Nanoscience and Nanotechnology* 9 (12): p. 6834-6843.

Morss Clyne, AS, Zhu, H, Edelman, ER. (2008) Elevated fibroblast growth factor-2 increases tumor necrosis factor-α induced endothelial cell death in high glucose. *Journal of Cellular Physiology.* 217: p. 86–92.

Morss AS, Edelman ER (2007). Glucose modulates basement membrane absorption of fibroblast growth factor-2 via alterations in endothelial cell permeability. *Journal of Biological Chemistry.* 282(19): p. 14635-14644.

Edelman ER, Seifert P, Groothuis A, Morss A, Bornstein D, Rogers C (2001). Gold-coated NIR stents in porcine coronary arteries. *Circulation*. 103(3): p. 429-434.

CONFERENCE PRESENTATIONS (* undergraduate)

Mathew J, Morss Clyne A. Glycated collagen decreases urokinase plasminogen activator (uPA) activity in endothelial cells. *2012 ASME Summer Bioengineering Conference (Poster presentation)*

Patel N, Morss Clyne A. A computational model of fibroblast growth factor-2 binding to isolated and intact cell surface receptors. *2012 ASME Summer Bioengineering Conference (Poster presentation)*

Yu M, Morss Clyne A. Dextran and PEG coating reduce nanoparticle toxicity to cells. *2012 ASME Summer Bioengineering Conference (Poster presentation)*

Morss Clyne A. Low and high glucose inhibit endothelial cell response to shear stress. *2012 BMES-SPRBM (Oral presentation)*

Morss Clyne A. Glycated collagen alters endothelial cell mechanotransduction. *2011 NAVBO Workshops in Vascular Biology (Oral presentation)*

Figueroa D, Kemeny S, Morss Clyne A. Glycated collagen prevents endothelial cell response to cyclic stretch *2011 BMES Fall Meeting (Oral presentation)*

Morss Clyne AM. Glycated collagen alters endothelial cell plasminogen system balance. *2011 BMES Fall Meeting (Oral presentation)*

Cicalese S*, Kemeny S, Morss Clyne A. Ultra-low glucose, high glucose, and glycated collagen alter endothelial cell adhesion. *2011 BMES Fall Meeting (Poster presentation)*

Olson MS, Gurian PL, Clyne AM, Shih WH, Shih W, and Lelkes P. Nanotechnology in undergraduate education: environmental and health implications of nanotechnology *2011 ASEE Middle Atlantic Section Fall Conference (Oral presentation)*

Arjunan K, Morss Clyne A. Non-thermal dielectric barrier discharge plasma induces angiogenesis through reactive oxygen species *2011 IEEE EMBC (Oral presentation)*

Arjunan K, Morss Clyne A. Non-thermal dielectric barrier discharge plasma promotes vascularization through reactive oxygen species *2011 ASME Summer Bioengineering Conference (Oral presentation)*

Kemeny S, Figueroa D, Morss Clyne A. Both hypoglycemia and hyperglycemia prevent endothelial cell actin fiber alignment to fluid shear stress *2011 ASME Summer Bioengineering Conference (Oral presentation)*

Figueroa D, Morss Clyne A. Basement membrane collagen glycation prevents endothelial cell response to strain due to altered focal adhesion formation *2011 ASME Summer Bioengineering Conference (3rd place in PhD paper competition)*

Yu M, Muzykantov V, Morss Clyne A. Iron oxide nanoparticles are less toxic to endothelial cells when coated with dextran and polyethylene glycol *2011 ASME Summer Bioengineering Conference (Poster presentation)*

Kemeny S, Figueroa D, Morss Clyne A. Endothelial cell mechanical response is impaired by glycated collagen substrates *2011 Vascular Cell Biology Gordon Conference (Poster)*

Kemeny S, Figueroa D, Morss Clyne A. Endothelial cell shear stress response is inhibited by glycated collagen *2011 BMES-SPRBM Conference on Cellular and Molecular Bioengineering (Rising star presentation)*

Kemeny S, Figueroa D, Morss Clyne A. Endothelial cell mechanical response changes in a diabetic microenvironment. *2010 MRS Fall Meeting (Invited oral presentation)*

Kemeny S, Morss Clyne A. Glycated substrate alters endothelial cell response to fluid shear stress. *2010 BMES (Oral presentation)*

Morss Clyne A. Reactive oxygen species contribute to cell toxicity in a nano-bioprinting system. *2010 Biofabrication (Oral presentation)*

Arjunan K, Dobrynin D, Friedman G, Morss Clyne A. A novel pin-to-hole spark discharge plasma produces nitric oxide for medical applications. *2010 ICOPS (Poster)*

Morss Clyne A. Integrating new junior faculty into the Drexel University College of Engineering. *2010 ASEE (Oral presentation)*

Buyukhatopoglu K, Sun W, Morss Clyne A. A hybrid nano-bioprinting device for tissue engineering. *2010 ASME NanoEngineering in Medicine and Biology (Oral presentation)*

Weber H*, Figueroa D, Morss Clyne A. Collagen glycation alters endothelial cell response to cyclic strain. *2009 BMES (Poster)*

Reisig K*, Morss Clyne A. Fibroblast growth factor-2 binding to endothelial basement membrane changes with shear stress. *2009 BMES (Poster)*

Kalghatgi S, Fridman A, Friedman G, Morss Clyne A. Non-thermal plasma enhances endothelial cell proliferation through fibroblast growth factor-2 release. *2009 IEEE EMBC (Poster)*

Arjunan K, Dobrynin D, Fridman A, Friedman G, Morss Clyne A. A pin-to-hole spark discharge plasma generates nitric oxide and can be safely applied to an endothelial cell monolayer. *2009 ASME Summer Bioengineering Conference (Oral presentation)*

Rajendran K, Manomohan G, Morss Clyne A. A dielectrophoretic device for studying single cell mechanics. *2009 ASME Summer Bioengineering Conference (Oral presentation, Mow symposium)*

Kalghatgi S, Fridman A, Friedman G, Morss Clyne A. Non-thermal plasma enhances endothelial cell proliferation through fibroblast growth factor-2 release. *2009 ASME Summer Bioengineering Conference (Poster, **2nd place**)*

Buyukhatipoglu K, Chang R, Sun W, Morss Clyne A. Bioprinted nanoparticles for tissue engineering applications. *2009 ASME Summer Bioengineering Conference (Poster)*

Figueroa D, Morss Clyne A. A cell stretching system to measure endothelial cell cyclic strain response on spatially defined basement membrane. *2009 ASME Summer Bioengineering Conference (Poster)*

Kemeny S, Morss Clyne A. High glucose alters endothelial cell response to shear stress. *2009 ASME Summer Bioengineering Conference (Poster, **Honorable Mention**)*

Kalghatgi S, Fridman A, Friedman G, Morss Clyne A. Non-thermal plasma enhances endothelial cell proliferation through fibroblast growth factor-2 release. *2009 IEEE ICOPS (Oral Presentation)*

Buyukhatipoglu K, Morss Clyne A. Bioprinted nanoparticles for tissue engineering. *IEEE CIMSA Special Session on Biomanufacturing (Invited Oral Presentation)*

Morss Clyne, A. Effect of high glucose extracellular matrix alterations on endothelial cell plasminogen system balance. *2009 Vascular Matrix Biology and Bioengineering Workshop (Poster)*

Buyukhatipoglu K, Miller TA, Morss Clyne A. *In vitro* toxicity and intracellular uptake of flame synthesized iron oxide nanoparticles: an alternative to wet synthesis methods. *2008 AIChE (Oral Presentation)*

Buyukhatipoglu K, Miller TA, Morss Clyne A. Biocompatible, superparamagnetic, flame synthesized iron oxide nanoparticles: cellular uptake and toxicity studies. *2008 ASME IMECE (Oral Presentation)*

Morss Clyne A, Edelman ER. Vascular cell response to basement membrane fibroblast growth factor-2 varies in high glucose. *2008 BMES (Poster)*

Kalghatgi S, Fridman A, Friedman G, Morss Clyne A. Non-thermal dielectric barrier discharge plasma treatment of endothelial cells. *2008 IEEE EMBC (Oral Presentation)*

Morss Clyne AS. Altered endothelial cell phenotype in diabetes: implications for growth factor and cytokine response. *2008 Gordon Conference on endothelial cell phenotypes in health and disease (Poster and Oral Presentation)*

Morss Clyne AS, Edelman ER. Endothelial cell proliferation and survival in response to basement membrane fibroblast growth factor-2 depends on secondary mediators. *2008 9th International Conference on Angiogenesis (Poster and Oral Presentation)*

Kalghatgi S, Friedman G, and Morss Clyne AS. Toxicity of non-thermal dielectric barrier discharge plasma treatment of endothelial cells. *2008 IEEE ICOPS* ***(Best student paper)***

Morss Clyne AS, Zhu H, Edelman ER. Elevated glucose increases tumor necrosis factor-α induced endothelial cell death via fibroblast growth factor-2 release. *2008 Experimental Biology (Poster)*

Manomohan G, Rajendran K, Morss Clyne AS. Design of a Dielectrophoretic Mechanical Testing Device. *2008 Materials Research Society Spring Meeting (Poster)*

Morss AS, Jonas M, Edelman ER. Elevated basement membrane fibroblast growth factor-2 protects endothelial cells in high glucose. *2007 ASME Summer Bioengineering Conference (Oral Presentation)*

Morss AS, Edelman ER. Glucose modulates basement membrane fibroblast growth factor-2 via alterations in endothelial cell permeability. *2007 Experimental Biology (Poster)*

Morss AS, Edelman ER. Glucose modulates basement membrane fibroblast growth factor-2 via alterations in endothelial cell permeability. *2006 HST Forum (Poster)*

Morss AS, Shaw J. Diabetes and cardiovascular disease in native populations. *2005 HST Forum (Poster)*

Morss AS, Edelman ER, Seifert P, Bornstein D, Rogers C. Biocompatibility comparison of stainless steel, gold-coated, and heat-treated gold-coated endovascular stents. *2001 Materials Research Society Fall Meeting (Oral Presentation)*

PATENTS

Bioprinted Nanoparticles and Methods of Use, Alisa Morss Clyne, Kivilcim Buyukhatipoglu, Robert Chang, Wei Sun, December 2010.

Plasma Treatment for Growth Factor Release from Cells and Tissues, Alisa Morss Clyne, Sameer Kalghatgi, Gary Friedman, Alex Fridman, March 2010.

INVITED LECTURES AND SEMINARS

University of Pennsylvania, Center for Targeted Therapeutics and Translational Nanomedicine (11/2/11)
"Iron oxide nanoparticles and reactive oxygen species-mediated cytotoxicity"

Columbia University (4/29/11)
"Integrated biochemistry and biomechanics in atherosclerosis and angiogenesis"

Worcester Polytechnic Institute (3/23/11)
"Integrated biochemistry and biomechanics in diabetic cardiovascular disease"

Medical College of Wisconsin Cardiovascular Medicine Grand Rounds (10/14/10)
"Alterations in endothelial cell growth factor regulation and shear stress response in diabetes"

Hospital for Special Surgery (10/30/09)
"Endothelial cell biomechanics in disease: devices, fundamental studies, and applications"

Rensselaer Polytechnic Institute (10/14/09)
"Integrating biomechanics and biochemistry to understand diabetic vascular disease"

ASME Summer Bioengineering Conference (6/20/09)
"Obtaining the ideal faculty appointment: the job talk"

Tsingua University, Mechanical Engineering (5/14/09)
"Integrating biomechanics and biochemistry in the vasculature"

Temple University, Mechanical Engineering (4/11/08)
"Integrating biomechanics and biochemistry in the vasculature"

Johns Hopkins, Welch Center for Prevention, Epidemiology and Clinical Research (3/12/08)
"Diabetes and cancer: an interdisciplinary approach to the extracellular matrix"

University of the Sciences in Philadelphia, Department of Biological Sciences (5/18/07)
"Vascular kinetics: endothelial cell biochemistry and biomechanics in hyperglycemia"

University of Pennsylvania, Tissue Microfabrication Lab (4/18/07)
"The role of growth factors in vascular basement membrane memory"

Drexel University, School of Biomedical Engineering, Science, and Health Systems (1/26/07)
"Vascular basement membrane memory of acute hyperglycemic events"

Johns Hopkins University, Biomedical Engineering (3/27/06)
"Endothelial cells and basement membrane: a co-regulatory system for FGF-2"

Drexel University, Mechanical Engineering and Mechanics (1/26/07)
"Biomimetic materials: medical engineering inspired by nature"

Harvard-MIT Division of Health Sciences and Technology Graduation Student Speaker (6/7/06)
"HST inspires a life of service"

Massachusetts Institute of Technology Graduate Alumni Convocation (4/21/06)

"Vascular engineering in the Harvard-MIT Biomedical Engineering Center"
International Diabetes Institute, Melbourne, Australia (7/29/03)
"Engineering endothelial cell function"
Massachusetts Institute of Technology, Microsystems Technology Laboratory Seminar (5/21/03)
"Biomaterials in the cardiovascular system"

PROFESSIONAL ACTIVITIES

Conference Organization

ASME Summer Bioengineering Conference (Abstract reviewer 2008 – 2012; session chair 2011, track chair 2012)
BMES Fall Meeting (Abstract reviewer and session chair 2011)
IEEE Engineering in Medicine and Biology Conference (Abstract reviewer 2007-12; session chair 2008-11; track chair 2009-12)
ASME NEMB track chair 2010, 2013
IEEE CIMSA Biomanufacturing session chair 2009

Proposal Review

NASA: Fundamental Space Biology (2009)
NSF: CBET Biomedical Engineering (CAREER Award 2007, 2009-10; unsolicited 2007 – 2011), Graduate Research Fellowship Program 2010; BRIGE 2011
NIH: NIBIB Enabling Technologies for Tissue Engineering and Regenerative Medicine (adhoc 2007); Neurogenesis and Cell Fate (adhoc 2010)

Journal Article Reviews

ASM Materials for Medical Devices Database. Annals of Biomedical Engineering, ATVB, Artificial Organs, ASAIO, Bioelectromagnetics, Biofabrication, Computer Aided Design, Expert Opinion on Drug Delivery, IEEE Transactions on Plasma Science, Journal of Biomedical Materials Research, Journal of Heat Transfer, Journal of Cellular Physiology, Tissue Engineering,

Professional Affiliations

AAAS
American Society for Biochemistry and Molecular Biology
Biomedical Engineering Society
American Society of Mechanical Engineers
Sigma Xi
Society of Women Engineers
IEEE Engineering in Medicine and Biology Society
North American Vascular Biology Organization

TEACHING EXPERIENCE

Drexel University

2007 –	MEM 304 Introduction to Biomechanical Engineering
2007 –	MEM 220 Basic Fluid Mechanics
2007 –	MEM 478/800 Computer Aided Tissue Engineering: Guest lecturer
2007 –	Senior and Freshman design advisor
2010	CIVE 380 Nanotechnology: Environmental and Health Implications

2008, 2012 Great Works Symposium
2012 – MEM 424: Biomechanics

Massachusetts Institute of Technology

2006 – HST090 Cardiovascular Pathophysiology: Guest Lecturer

Stanford University

1994 – 1996 E103 Engineering Public Speaking

GRADUATE RESEARCH ADVISEES

Nisha Patel	Basement membrane local drug delivery (MS exp 2012)
Dannielle Figueroa	Endothelial cell strain response in diabetes (PhD exp. 2013)
Miao Yu	Nanoparticles for drug delivery (PhD exp. 2014)
Justin Mathew	Angiogenesis on glycated collagen (PhD exp 2015)
Adam Canver	Tissue engineering vascularization (PhD exp 2016)
Rebecca Urbano	Dielectrophoretic cell mechanics (PhD exp 2016)

COMPLETED GRADUATE THESES

Kavitha Rajendran	Dielectrophoretic cell mechanics (MS 2008)
Steven Kemeny	Endothelial cell response to shear stress (MS 2009)
Karl Reisig	Basement membrane binding kinetics in flow (MS 2010)
Kivilcim Buyukhatipoglu	Magnetic nanoparticles for tissue engineering (PhD 2010)
Aniel Padrino	Cell response to substrate stiffness in diabetes (MS 2012)
Krishna Priya Arjunan	Non-thermal plasma-induced angiogenesis (PhD 2012)
Steven Kemeny	Endothelial cell shear stress in diabetes (PhD 2012)

UNDERGRADUATES, TEACHERS, HIGH SCHOOL STUDENTS

Meghan Genuske	DREAM REU, Youngstown State	2007
Alissa Sperling	REU, Lehigh	2008
Anisha Vyas	Summer Mentorship, IMSA	2008
Jane Monaghan	RET, Masterman High School	2008
Jesse Sloane	MEM Hess program	2008
Katie Geracimowicz	REU, University of Pennsylvania	2008
Pak Kau Lim	MEM Hess program	2008-9
Bora Baydere	Summer Mentorship, Turkey	2009
Clara Engel	Drexel STAR	2009
Heather Weber	DREAM REU, Penn State	2009
Kelly Meighan	MEM Hess program	2009
Manjima Dhar	Student project, Masterman High School	2009
Renee Nester	Drexel STAR	2010
Pelin Kansu	Drexel STAR	2010
Adria Hughes	Nano RET, Sun Valley High School	2010
Latoya Riley	iREU, Cheyney University	2010
Justine Ly	Summer Mentorship, IMSA	2010
Stephanie Cicalese	iREU, Drexel University	2010-2011
Alex Redfield	iREU, Rowan University	2011
Claudia Gutierrez	Drexel STAR	2011
Rabia Qureshi	Drexel University coop	2012
Tianjiao Cai	Drexel University coop	2012

Elizabeth Krawzun iREU, CUNY 2012

SERVICE

2010 – 2011	Drexel College of Engineering Dean search committee
2011 – present	Drexel Graduate Women in Science and Engineering, faculty advisor
2010 – present	Drexel Student Life committee
2009 – present	Drexel Society of Women Engineers faculty advisor
2008 – 2009	Chair, Drexel mechanical engineering graduate student recruiting
2007 – present	Founder and director, Drexel Women in Engineering Research
2007 – 2008	Drexel Mechanical Engineering department head search committee
2007 – 2008	Chair, Drexel Mechanical Engineering seminar committee
2002 – 2006	Big Sister, Big Brother/Big Sister program
2004 – 2005	Founder and Director, MIT "Dinners with the Dean"
2002 – 2005	Graduate student representative, MIT Faculty Committee on Student Life
2002 – 2005	Student representative, MIT Graduate Student Life Fee Committee
1995 – 1996	President, Stanford Society of Women Engineers
1995 – 1996	Chair and Founder, "Exploring New Worlds" diversity program