Greg M. Harris, Ph.D.

Assistant Professor of Chemical Engineering
University of Cincinnati
Cincinnati, OH 45220

Mobile Phone: 515-460-3190
Office Phone: 513-556-4171
Email: gregory.harris@uc.edu

PROFESSIONAL EXPERIENCE

University of Cincinnati, Cincinnati, OH August 2017 – Present
Assistant Professor, Department of Chemical and Environmental Engineering
Secondary Appointment, Department of Biomedical Engineering

Princeton University, Princeton, NJ August 2017 – Present
Visiting Research Collaborator, Department of Molecular Biology

Mayo Clinic, Rochester, MN March 2016 – August 2017
Visiting Research Collaborator, Department of Regenerative Neurobiology

Princeton University, Princeton, NJ March 2014 – August 2017
NIH T32 Postdoctoral Research Fellow, Department of Molecular Biology

University of South Carolina, Columbia, SC August 2010 – March 2014
Graduate Research Assistant, Department of Chemical Engineering

Iowa State University, Ames, IA August 2009 – August 2010
Research Assistant, Department of Chemical Engineering

EDUCATION & TRAINING

Princeton University – Postdoctoral Fellowship in Molecular Biology August 2017

University of South Carolina – Ph.D. Chemical and Biological Engineering December 2013

Iowa State University – B.S. Mechanical Engineering December 2008

PEER-REVIEWED JOURNAL PUBLICATIONS

9. **Harris, Greg M**.; Madigan, Nicolas N.; Lancaster, Karen Z.; Enquist, Lynn W.; Windebank, Anthony J.; Schwartz, Jeffrey; Schwarzbauer, Jean E.; *Nerve Guidance by a Decellularized Fibroblast Extracellular Matrix*. Matrix Biology: 2017. 60-61: p. 176-189. PMCID: PMC5352540; Impact Factor: 8.136
8. Rutledge, Katy; Cheng, Qingsu, Pryzhkova, Marina V.; **Harris, Greg M**.; Jabbarzadeh, Ehsan; *Enhanced Differentiation of Human Embryonic Stem Cells on ECM-Containing Osteomimetic Scaffolds for Bone Tissue Engineering*. Tissue Engineering Part C: 2014. 20(11): p. 865-874. PMCID: PMC4229693; Impact Factor: 3.508
7. Pryzhkova, Marina V.; Aria, Indrat; Cheng, Qingsu; **Harris, Greg M.**; Zan, Xingjie; Gharib, Morteza; Jabbarzadeh, Ehsan; *Carbon Nanotube-based Substrates for Modulation of Human Pluripotent Stem Cell Fate.* Biomaterials: 2014. 35(18): p. 5098-5109. PMCID: PMC4943838; Impact Factor: 8.402
6. **Harris, Greg M**.; Piroli, Maria E.; Jabbarzadeh, Ehsan; *Deconstructing the Roles of Matrix Elasticity and Geometry in Mesenchymal Stem Cell Lineage Commitment.* Advanced Functional Materials, 2014. 24(16): p. 2396-2403. PMCID: PMC4267324; Impact Factor: 13.325
5. Cheng, Qingsu; **Harris, Greg M.**; Blais, Marc-Olivier; Rutledge, Katy; Jabbarzadeh, Ehsan; *Alignment of Carbon Nanotubes: An Approach to Modulate Cell Orientation and Symmetry*. NanoLife, 2014. 4(1). PMCID: PMC4861238; Impact Factor: 0.279
4. Cheng, Qingsu; Blais, Marc-Olivier; **Harris, Greg M**.; Jabbarzadeh, Ehsan; *PLGA-Carbon Nanotube Conjugates for Intercellular Delivery of Caspase-3 into Osteosarcoma Cells*. Plos One, 2013. 8(12): p. e81947. PMCID: PMC3849501; Impact Factor: 3.057

3. **Harris, Greg M**.; Shazly, Tarek; Jabbarzadeh, Ehsan; *Deciphering the Combinatorial Roles of Geometric, Mechanical, and Adhesion Cues in Regulation of Cell Spreading*. Plos One, 2013. 8(11): p. e81113. PMCID: PMC3839898; Impact Factor: 3.057
2. Pryzhkova, Marina V.; **Harris, Greg M**.; Ma, Shuguo; Jabbarzadeh, Ehsan; *Patterning Pluripotent Stem Cells at a Single Cell Level*. Journal of Biomaterials and Tissue Engineering, 2013. 3(4): p. 461-471. Impact Factor: 1.383
1. **Harris, Greg M**.; Rutledge, Katy; Cheng, Qingsu; Blanchette, James; Jabbarzadeh, Ehsan; *Strategies to Direct Angiogenesis within Scaffolds for Bone Applications*. Current Pharmaceutical Design, 2013. 19(19): p. 3456-3465. PMID: 23432671; Impact Factor: 3.052

BOOK CHAPTERS

1. **Harris, Greg M**.; Raitman, Irene; Schwarzbauer, Jean E (2018) *Cell-Derived Extracellular Matrices*. Methods Cell Biol. 143: p. 97-114.

INVITED PRESENTATIONS

2. **G. Harris**, J. Schwartz, and J. Schwarzbauer: Oral Presentation, "Utilizing Nature to Guide Design of Neural Regeneration Devices" University of Cincinnati Department of Chemical Engineering, Cincinnati, OH, December 12, 2016
1. **G. Harris**, J. Schwartz, and J. Schwarzbauer: Oral Presentation, "Nerve Guidance on Decellularized Extracellular Matrix" Mayo Clinic Department of Neurobiology, Rochester, MN, February 23, 2016

RESEARCH PRESENTATIONS

Presenter Underlined

23. **G Harris**: Poster Presentation, "Developing Bioactive Polymers using Cell-Assembled Extracellular Matrix for Nerve Regeneration" 2018 Biomedical Engineering Society Annual Meeting, Atlanta, GA, October 18, 2018
22. **G. Harris**, N. Madigan, K. Lancaster, H. Wang, A. Windebank, M. Yaszemski, J. Schwartz, J. Schwarzbauer: Oral Presentation, "Fibronectin Extracellular Matrix as a Guide for Neuron Outgrowth and Nerve Regeneration" American Society for Matrix Biology Biennial Meeting, St. Petersburg, FL, November 16, 2016
21. **G. Harris**, J. Schwarzbauer: Oral Presentation, "Micropatterning Cell and ECM Alignment to Stimulate Tissue Regeneration" New Jersey Center for Biomaterials NIH T32 Immersion Retreat, Piscataway, NJ, October 26, 2016
20. **G. Harris**, N. Madigan, K. Lancaster, A. Windebank, J. Schwartz, J. Schwarzbauer: Poster Presentation, "Extracellular Matrix as a Guide for Nerve Regeneration" 2016 Symposium on Biomaterials Science, Iselin, NJ, October 25, 2016
19. **G. Harris**, J. Schwarzbauer: Oral Presentation, "Extracellular Matrix and Patterned Biomaterials Direct Neuron Outgrowth" Princeton University Molecular Biology Departmental Retreat, Princeton, NJ, October 8, 2016
18. J. Schwartz, S. Bandini, **G. Harris**, L. Adler, A. Parikh, J. Spechler, C. Arnold, H. Wang, J Schwarzbauer: Oral Presentation, "A Nanoscale Interface Directs Alignment of a Cell-assembled Extracellular Matrix to Template Neurite Outgrowth" CIMTEC, Perugia, Italy, June 7, 2016
17. **G. Harris**, J. Schwarzbauer: Oral Presentation, "Patterned ECM on Nerve Friendly Polymers for Neurite Guidance and Regeneration" New Jersey Center for Biomaterials NIH T32 Immersion Retreat, Piscataway, NJ, November 10, 2015
16. **G. Harris**, J. Schwarzbauer: Poster Presentation, "Patterned ECM on Nerve Friendly Polymers for Neurite Guidance and Regeneration" 2015 NJ Symposium on Biomaterials Science, New Brunswick, NJ, November 9, 2015
15. **G. Harris**, S. Bandini, H. Wang, N. Madigan, A, Windebank, M. Yaszemski, J. Schwartz, J. Schwarzbauer: Poster Presentation, "Patterned Extracellular Matrix on Nerve Friendly Polymers for Neurite Guidance and Regeneration" Biomedical Engineering Society Annual Meeting, Tampa, FL, October 8, 2015

14. **G. Harris**, S. Bandini, H. Wang, N. Madigan, A, Windebank, M. Yaszemski, J. Schwartz, J. Schwarzbauer: Poster Presentation, "Patterned Extracellular Matrix on Nerve Friendly Polymers for Neurite Guidance and Regeneration" Princeton Bioengineering Day Symposium, Princeton, NJ, October 2, 2015
13. **G.Harris**, S. Bandini, J. Schwarz, J. Schwarzbauer: Oral Presentation, "Micropatterned Cell-derived ECM to Stimulate Neurite Alignment" American Society for Matrix Biology Meeting, Cleveland, Ohio, October 14, 2014
12. **G.Harris**, S. Bandini, J. Schwarz, J. Schwarzbauer: Poster Presentation, "Micropatterning Polymers using Cell-derived ECM for Nerve Guidance" 2014 NJ Symposium on Biomaterials Science, New Brunswick, NJ, October 6, 2014
11. **G. Harris**, J. Schwarz, J. Schwarzbauer: Poster Presentation, "Cell-mediated Assembly of ECM on Biomaterials for Directed Tissue Growth" Rutgers Cancer Institute of New Jersey - Tumor Microenvironment and Progression, Princeton, NJ, August 23, 2014
10. **G. Harris**, J. Schwarzbauer: Oral Presentation, "Micropatterning Cell and ECM Alignment to Stimulate Tissue Regeneration" New Jersey Center for Biomaterials NIH T32 Immersion Retreat, Piscataway, NJ, June 10, 2014
9. **G. Harris**, M. Piroli, E. Jabbarzadeh; Poster Presentation, "Discriminating the Influences of the Physical Microenvironment on Stem Cell Lineage Commitment" TERMIS Meeting, Atlanta, GA, November 11, 2013
8. **G. Harris,** M. Piroli, E. Jabbarzadeh; Oral Presentation, "Dissecting the Role of Asymmetric Division in Control of Stem Cell Lineage Specification" AIChE Conference, San Francisco, CA, November 4, 2013
7. **G. Harris**, E. Jabbarzadeh: Oral Presentation, "Parsing the Role of Asymmetric Division in Regulation of Stem Cell Function" University of South Carolina Graduate Student Day, Columbia, SC, April 12, 2013
6. **G. Harris**, E. Jabbarzadeh: Oral Presentation, "Parsing the Role of Asymmetric Division in Regulation of Stem Cell Function" American Chemical Society Annual Meeting, New Orleans, LA, April 7, 2013
5. K. Rutledge, Q Cheng, **G Harris**, E. Jabbarzadeh: Oral Presentation, "Osteomimetic Scaffolds for Bone Repair" American Chemical Society Annual Meeting, New Orleans, LA, April 7, 2013
4. **G. Harris**, E. Jabbarzadeh: Oral Presentation, "Parsing the Roles of Physical Signaling and Asymmetric Division in Regulation of Stem Cell Function" University of South Carolina Chemical Engineering Graduate Student Symposium, Columbia, SC April 4, 2013
3. **G. Harris**, E. Jabbarzadeh: Poster Presentation, "Decoupling the Role of Topographical, Mechanical, and Chemical Cues in Regulation of Cell Spreading" Biomedical Engineering Society Annual Meeting, Atlanta, GA, October 27, 2012
2. **G. Harris**, T. Shazly, E. Jabbarzadeh: Poster Presentation, "Dissecting the Roles of Matrix Elasticity, Topography, and Ligand Density in Stem Cell Function" South Carolina Graduate Student Symposium, Columbia, SC, June 8, 2012
1. **G. Harris**, E. Jabbarzadeh: Poster Presentation, "Control of Cell Adhesion and Migration using Nanoengineered Substrates" AICHE Conference, Minneapolis, MN, October 19, 2011

AWARDS

- University of Cincinnati Office of Research – New Faculty Developmental Award 2017
- American Society for Matrix Biology - Biennial Meeting Travel Grant Award 2016
- Princeton Bioengineering Day 2015 - Best Poster Award Winner
- University of South Carolina Chemical Engineering Graduate Student Symposium "Best Oral Presentation" Award 2013
- University of South Carolina Travel Grant Award 2011, 2012, and 2013
- Iowa State University Graduate Cum Laude 2008
- Iowa State University Academic Recognition Scholarship 2004, 2005, 2006, 2007, and 2008

PROFESSIONAL AND UNIVERSITY SERVICE

Scientific Journals: Ad Hoc Reviewer

- Acta Biomaterialia 2018
- Journal of Tissue Engineering and Regenerative Medicine 2018
- Journal of Biomedical Materials Research: Part A 2017

University of Cincinnati

- Faculty judge - UC Undergraduate Scholarly Showcase April 16, 2018

University of South Carolina

- South Carolina Chemical Engineering Graduate Student Organization Vice President 2013-2014
- South Carolina Chemical Engineering Graduate Student Organization Treasurer 2011-2013

Iowa State University

- Iowa State University Weightlifting Club Treasurer 2007-2008
- Iowa State University Weightlifting Club Sports Committee Officer 2006-2007

TEACHING

University of Cincinnati

- Chemical Engineering 2064, Material and Energy Balance – Instructor Fall 2018
- Chemical Engineering 2064, Material and Energy Balance – Instructor Spring 2018

Princeton University

- Molecular Biology Junior Seminar – Instructor Fall 2016

University of South Carolina

- Biomedical Engineering 271, Introduction to Biomaterials – Lab Instructor Spring 2013
- Biomedical Engineering 389, Stem Cell Engineering – Lab instructor and Class TA Fall 2012
- Chemical Engineering 300, Intro to Chemical Engineering Process Principles – Recitation instructor and class TA Spring 2012
- Chemical Engineering 300, Intro to Chemical Engineering Process Principles – Recitation instructor and class TA Fall 2011
- Chemical Engineering 300, Intro to Chemical Engineering Process Principles – Recitation instructor and class TA Spring 2011
- Chemical Engineering 101, Freshman Engineering Principles – Class TA Fall 2010

MENTORING

University of Cincinnati

Graduate Students

- Jacob Orkwis – Chemical Engineering (Ph.D. candidate) 2018 – Present
- Emily Cady – Chemical Engineering (M.S. candidate) 2017 – Present
- Zhenyuan Xu – Chemical Engineering (Ph.D. candidate) 2017 – Present

Undergraduate Students

- Braden Devine – Biomedical Engineering Summer 2018

- Rachel Weaver – Chemical Engineering — Summer 2018
- Korey Kellogg – Chemical Engineering — Spring 2018
- Kassi Crawford – Chemical Engineering — Spring 2018

Dissertation Committee Member

- Stacey Gruber – Biomedical Engineering — 2018 – 2019

PATENTS

- Title: Patterning of fragile or non-planar surfaces for cell alignment. Publication Number: WO2016118349. Publication Date: June 28, 2016. International Application Number: PCT/US2016/012791. International Filing Date: November 1, 2016.

PROFESSIONAL AND COMMUNITY MEMBERSHIPS

- The Ohio Academy of Sciences — 2018 – Present
- American Society for Matrix Biology — 2014 – Present
- Biomedical Engineering Society — 2012 – Present
- American Institute of Chemical Engineers — 2011 – Present
- Tissue Engineering and Regenerative Medicine International Society — 2013 – 2015
- American Chemical Society — 2013 – 2014
- University of South Carolina Chemical Engineering Graduate Student Organization — 2010 – 2014
- Iowa State University Chemical Engineering Graduate Student Organization — 2009 – 2010
- Iowa State University Triathlon Club — 2006 – 2008
- Iowa State University Weightlifting Club — 2005 – 2010