

JESSICA D. BILLS, M.S.

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EDUCATION

Doctor of Philosophy (Ph.D.), Cellular, Molecular, and Developmental Biology	2019-present
Mentor: Dr. Ann C. Morris, the University of Kentucky	
Projects: Retinal development and regeneration in <i>Acomys cahirinus</i>	
Master of Science (M.S.), Biotechnology	2013-2015
The University of Texas at Dallas, TX	
Bachelor of Science (B.S.), Biology	2006-2010
Texas Woman's University, TX	

EXPERIENCE

Research Technician Senior/Lab Manager	2018- summer 2019
PI: Ann Morris, Ph.D., University of Kentucky, KY	
Research Scientist	2015-2017
CEO: Richard Vogel, DermaGenesis LLC, Pompano Beach, FL	
Research Study Coordinator	2012-2015
PI: Kathryn Davis, Ph.D., UT Southwestern Medical Center, Dallas, TX	
Research Technician II	2011-2012
PI: Deborah Clegg, Ph.D., UT Southwestern Medical Center, Dallas, TX	
Undergraduate Research Assistant	2009-2010
PI: Heather Conrad-Webb, Ph.D., Texas Woman's University, Denton, TX	

FELLOWSHIPS/GRANTS/AWARDS/MEMBERSHIPS

Fellowships/Grants

National Science Foundation Graduate Research Fellow	2020- 2025
Ribble Pilot Grant	2020
George Scherr Graduate Fellowship for Excellence in Research in Biology	2019
Gertrude Flora Ribble Research Fellowship	2019

Awards

MBL Frontiers in Stem Cell and Regeneration Financial Aid Award	2019
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Memberships

Graduate student member: American Association of the Advancement of Science
Graduate student member: Society for Developmental Biology

PRESENTATIONS/ADVANCED EDUCATION

Presentations

Poster: Society for Developmental Biology National Meeting	2020
Poster: Undergraduate symposium	2009

Advanced Education

Frontiers in Stem Cell and Regeneration Advanced training course	2019
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PUBLICATIONS

Manuscripts

1. Coomer, C. E., Wilson, S. G., Titalii-Torres, K. F., **Bills, J. D.**, Krueger, L. A., Petersen, R. A., Turnbaugh, E. M., Janesch, E. L., & Morris, A. C. (2020). Her9/Hes4 is required for retinal photoreceptor development, maintenance, and survival. *Scientific Reports*, 10(1). <https://doi.org/10.1038/s41598-020-68172-2>

2. **Bills, JD**, Berriman, SJ, Noble, DL, Lavery, LA, Davis, KE. Pilot study to evaluate a novel three-dimensional wound measurement device. *International Wound Journal*. Nov 2015, PMID: 26558349
3. **Jessica D. Bills, BS**, Christopher Derderian, MD, Jenny Barker, PhD, Alysia Lowe, PhD, Lawrence A. Lavery, DPM, MPH, Kathryn E. Davis, PhD. The Role of Estrogen in the Modulation of Autologous Fat Graft Outcomes. *Plastic and Reconstructive Surgery Journal*. Jan 2015, PMID: 25539317
4. Lowe A, **Bills J**, Verma R, Lavery L, Davis K, Balkus Jr KJ. Electrospun Nitric Oxide Releasing Bandage with Enhanced Wound Healing. *Acta Biomaterials*. Feb 2015, PMID: 25463501
5. Ryan S. Constantine, B.A., **Jessica D. Bills, B.S.**, Lawrence A. Lavery D.P.M. M.P.H., Kathryn E. Davis, Ph.D. Validation of a Laser-Assisted Wound Measurement Device in a Wound Healing Model. *International Wound Journal*. Aug 2014, PMID: 25124513
6. Jenny C Barker, Adam D Barker, **Jessica Bills**, Jiying Huang, Mary Wight-Carter, Imelda Delgado, Debby Noble, Lily J Huang, Matthew H Porteus, Kathryn E Davis. Genome editing of mouse fibroblasts by homologous recombination for sustained secretion of PDGF-B and augmentation of wound healing. *Plastic and Reconstructive Surgery Journal*, Sep. 2014, PMID: 25158716
7. Kathryn E. Davis, Fadi C. Constantine, Elaine C. MacAslan, **Jessica D. Bills**, Debby L. Noble, Lawrence A. Lavery. Validation of a Laser Assisted Wound Measurement Device for Measuring Wound Volume. *Journal of Diabetes Science and Technology*, Sept. 2013, PMID: 24124941
8. Davis KE, Lafontaine J, **Bills J**, Noble D, Wight-Carter M, Oni G, Rohrich RJ, Lavery LA. The Comparison of Two Negative Pressure Wound Therapy Systems in a Porcine Model of Wound Healing. *Wound Repair and Regeneration*, Sep. 2013, PMID: 23926906
9. Kathryn E. Davis, Michael Neinast, Kai Sun, William Skiles, **Jessica Bills**, Jordan Zehr, Daniel Zeve, Lisa Hahner, Derek Cox, Lana Gent, Yong Xu, Zhao Wang, Sohaib Khan, Deborah J. Clegg. The Sexually Dimorphic Role of Adipose and Adipocyte Estrogen Receptors in Modulating Adipose Tissue Expansion, Inflammation, and Fibrosis. *Molecular Metabolism*, June 2013, PMID: 24049737.
10. Kathryn Davis, PhD, Yvonne Rasko, MD, Georgette Oni, MD, **Jessica Bills**, BS, Palmyra Geissler, MD, Jeffrey Kenkel, MD. Comparison of Adipocyte Viability and Fat Graft Survival in an Animal Model Using a New Tissue Liquefaction Liposuction Device vs. Standard Coleman Method for Harvesting. *Aesthetic Surgery Journal*, Nov. 2013, PMID: 24197935
11. Kathryn Davis, PhD, **Jessica Bills, BS**, Jenny Barker, PhD, Paul Kim, DPM, FACFAS, Lawrence Lavery DPM, MPH. Simultaneous irrigation and NPWT enhances wound healing and reduce wound bioburden in a porcine model. *Wound Repair and Regeneration*, Nov 2013, PMID: 24134060

Patents:

1. Matrix Production Carrier. United States Patent. Application number 15/469,629. Publication date Sept. 28, 2017.
2. Bioengineered regenerative graft matrix and methods for making thereof. United States Patent. Application number 15/631,628. Publication Date Dec. 28, 2017.
3. Matrix Construction. United States Patent. Application number 15/631,530. Publication date Dec. 28, 2017.
4. Methods of producing extracellular matrix useable in breast implant and other matrix production. Application number 15/902,270. Filing date Feb. 22, 2018.

TEACHING EXPERIENCE

Teaching Assistant

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|---|-----------|
| The University of Kentucky | 2019-2020 |
| ○ Biology 155 Laboratory | |
| ○ Biology 304 Genetics Laboratory | |
| Tarleton State University, Stephenville, TX | 2004-2005 |
| ○ Chemistry 101 Lecture/Lab | |

Substitute Teacher

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| Lorena ISD, Lorena, TX | 2017-2018 |
| ○ 6th grade science & history, 5 th grade science, Special education | |

Surgical Skills Teacher/Laboratory Instructor/Mentor

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| University of Texas Southwestern Medical Center, Dallas, TX | 2013-2015 |
| ○ Basic Laboratory Skills Class: all incoming
medical/undergraduate/graduate students | |

DEPARTMENTAL AND COMMITTEE WORK

UK Biology Graduate Student Association

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| Vice President | 2020 |
| Treasurer | 2019 |

UK Biology Diversity, Equity, and Inclusion Committee Member

2020

OUTREACH/VOLUNTEER WORK

Science Olympiad

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| Volunteer/Grader/Test Writer | Apr. 2019 |
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Expanding Your Horizons

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| Group Mentor – Biology/Neuroscience | Spring 2019 |
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Science Night

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| Coventry Oak Elementary School, Volunteer | Feb. 2019 |
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Sts. Peter and Paul School Science Fair

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| Science Fair Judge | Dec. 2018 |
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Lexington Humane Society

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| Volunteer | 2018-Present |
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