

Lauren (Bellcock) Miller, Ph.D.

101 Pueblo, Edmond, OK 73013

Phone: (501)773-8697

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Future Direction Statement

My long-term career goal is to obtain a faculty position at an institution where I can conduct research and teach the next generation of scientists and medical professionals.

Education

University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma.

- Ph.D. in Cell Biology.
- Relevant Courses:
 - Preparing Future Faculty 1 & 2: Instructional Methods and Teaching Experience
 - Cellular Systems 1 & 2
 - Advanced Cell Signaling
- GPA: 3.77
- Graduation Date: August 1st, 2022

Oklahoma Christian University, Edmond, Oklahoma.

- Bachelor of Science in Cellular and Molecular Biology.
- Relevant Courses:
 - General Biology 1 & 2
 - Genetics
 - Advanced Cell Biology
- Overall GPA: 3.55
- Science GPA: 3.25
- Graduation Date: April 28, 2017.

Funding and Awards

- **Geroscience Training Program in Oklahoma, Fellowship** (Role: Post-Doctoral Fellow) **08/01/2024-07/31/2025**. Amount: \$61,428.
- **American Heart Association Predoctoral Fellowship** (Role: PI) **04/01/2021-03/31/2022**
The role of vascular smooth muscle cell IGF-1 signaling in the pathogenesis of vascular fragility and cognitive decline. (Direct: \$31,520.)
- **Geroscience Training Program in Oklahoma, Fellowship** (Role: Pre-Doctoral Fellow) **11/08/2020-11/07/2020**. Amount: \$25,320.
- **Presbyterian Health Foundation Research Support Grant, Fellowship** (Role: PI) **07/2019-06/2021**
IGF-1, smooth muscle plasticity, and pathogenesis of cerebral microhemorrhages in aging.
Amount: \$30,000.
- Vice President of Research Scientific Achievement Award, OUHSC GREAT Symposium, April 2021.
- Received the *Outstanding Senior* award from the Department of Biology at Oklahoma Christian University, April, 2017.

Professional Experience

- Post-Doctoral Research Fellow, Galvan Lab, University of Oklahoma Health Sciences Center, July 2024-Present.
- Post-Doctoral Research Fellow, Cleuren Lab, Oklahoma Medical Research Foundation, September 2022-May 2024

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- Graduate Research Assistant, Conley Lab, University of Oklahoma Health Sciences Center, March 2018-August 2022.
- Adjunct Instructor of Biology, Oklahoma Christian University, August 2021-December 2023.
- Adjunct Instructor of Chemistry, Oklahoma Christian University, January 2021-April 2021.
- Teaching Assistant for the Animal Handling Laboratory Course at the University of Oklahoma Health Sciences Center, August 2018, August 2019, & August 2020.
- Temporary Lab Technician in the Department of Cell Biology at the University of Oklahoma Health Sciences Center, May 2017-July 2017.
- Summer Research Student in the Department of Cell Biology at the University of Oklahoma Health Sciences Center, May 2016-July 2016.
- Undergraduate Research Assistant in the Biology Department at Oklahoma Christian University, May 2015-December 2016.
- Teaching Assistant for the chemistry laboratories at Oklahoma Christian University, August, 2014-April 2017.
- Supportive Living Companion through Easter Seals Arkansas, May, 2014-May, 2016.
- Childcare Provider at Grace Church in Little Rock, Arkansas, January, 2012-May, 2013.

Publications and Presentations

Postgraduate

- Huston CA, Sanford M, Vance M, Bickel M, **Miller L**, Negri S, Hibbs C, Vaden H, Hayes L, Csiszar A, Ungvari Z, Yabluchanskiy A, Tarantini S, Conley SM. (2024) The effect of time restricted feeding on age-related changes in the mouse retina. *Manuscript in submission*.
- **Miller LR**, Bickel MA, Vance ML, Vaden H, Nagykalai D, Nyul-Toth A, Bullen EC, Gautam T, Tarantini S, Yabluchanskiy A, Kiss T, Ungvari Z, Conley SM. (2024). Vascular smooth muscle cell-specific Igf1r deficiency exacerbates the development of hypertension-induced cerebral microhemorrhages and gait defects. *Geroscience 2024 Feb 23. Online ahead of print*.
- **Miller LR**, Bickel MA, Tarantini S, Runion ME, Maccacchiera Z, Vance ML, Hibbs C, Vaden H, Nagykalai D, Martin T, Bullen EC, Pinckard J, Kiss T, Howard EW, Yabluchanskiy A, Conley SM. (2024) IGF1R deficiency in vascular smooth muscle cells impairs myogenic autoregulation and cognition in mice. *Frontiers in Aging Neuroscience 2024 Feb 15;16:1320808*.
- **Miller LR**, Saunders D, Negri S, Beckstead M, Tarantini S, Cleuren ACA. (2024) The cerebrovasculature in a mouse model of Alzheimer's disease. *North American Vascular Biology Organization Meeting 2023 Poster Presentation Session*.
- **Miller LR**, Saunders D, Beckstead M, Cleuren ACA. (2023) Alzheimer's disease and chronic hypertension are associated with endothelial changes in the brain. *Annual AGE meeting 2023 Poster Presentation Session*.

Graduate

- **Miller LR**, Tarantini S, Nyúl-Tóth A, Johnston MP, Martin T, Bullen EC, Bickel MA, Sonntag WE, Yabluchanskiy A, Csiszar A, Ungvari ZI, Elliot MH, Conley SM. (2021) Increased susceptibility to cerebral microhemorrhages is associated with imaging signs of microvascular degeneration in the retina in an IGF-1 deficient mouse model of accelerated aging. *Frontiers in Aging Neuroscience 2022 Mar 9;14:788296*.
- **Miller LR**, Tarantini S, Nyúl-Tóth A, Martin T, Bickel MA, Yabluchanskiy A, Csiszar A, Ungvari ZI, Conley SM. (2022). Divergent effects of IGF-1 deficiency in the cerebral and retinal

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vasculature. *Brain and Brain PET Imaging Symposium 2022 poster presentation session.*
Brain and Brain PET Imaging Symposium 2022 Travel Bursary (\$1100) received for written abstract score.

- **Miller LR**, Bickel MA, Matakchiera Z, Martin T, Tarantini S, Yabluchanskiy A, Csiszar A, Ungvari ZI, Conley SM. (2022). Smooth muscle cells play a role in cerebrovascular pathologies and gait defects in IGF-1 deficiency. *Annual AGE Meeting 2022 Poster Presentation Session.* **American Age Association Nathan Shock Center Travel Award (\$1000) received for poster presentation score.**
- **Miller LR**, Bickel MA, Matakchiera Z, Martin T, Tarantini S, Yabluchanskiy A, Csiszar A, Ungvari ZI, Conley SM. (2022). Smooth muscle cells play a role in cerebrovascular pathologies and gait defects in IGF-1 deficiency. *2022 Geroscience Symposium Poster Presentation Session.*
- **Miller LR**, Bickel MA, Runion M, Matakchiera Z, Martin T, Bullen E, Tarantini S, Yabluchanskiy A, Csiszar A, Ungvari ZI, Conley SM. (2022) Vascular smooth muscle cells and IGF-1 in age-related vascular fragility and cognitive decline. *2022 GREAT Symposium Graduate Student Oral Presentation Session.* Oklahoma City, Oklahoma.
- **Miller LR**, Martin T, Bickel MA, **Csiszar A, Ungvari ZI**, Tarantini S, **Yabluchanskiy A**, Conley SM. (2021) Investigating the role of IGF-1 signaling on VSMCs in the pathogenesis of age-related vascular fragility and cognitive decline. *2021 GREAT Symposium Graduate Student Oral Presentation Session.* Oklahoma City, Oklahoma.
- Lipecz A*, **Miller LR***, Kovacs I, Czako C, Csipo T, Baffi J, Csiszar A, Ungvari ZI, Yabluchanskiy A, Conley SM. (2019) Microvascular contributions to age-related macular degeneration (AMD): from mechanisms of choriocapillaris aging to novel interventions. *Gerosciences*, Dec;41(6):813-845. *Co-first authors.
- **Miller LR**, Conley SM. (2019) Mechanisms of microbleed-associated cognitive decline in the elderly. *2019 GREAT Symposium Graduate Student Flash Talk Session.* Oklahoma City, Oklahoma.
- **Miller LR**, Tarantini S, Tatarian J, Guatam T, Balasubramanian P, Csiszar A, Ungvari ZI, Conley SM. (2019) IGF-1, smooth muscle plasticity, and the pathogenesis of cerebral microhemorrhages in aging. *IDeA Central Region Conference poster presentation session;* Oklahoma City, Oklahoma.
- Tatarian J, **Miller LR**, Johnston M, Bullen EC, Howard EW, Conley SM. (2019) Insulin-like growth factor 1 deficiency and aging in the central nervous system. *OUHSC SURP poster presentation session;* Oklahoma City, Oklahoma.
- **Miller LR**, Tarantini S, Johnston M, Bullen EC, Ahire C, Howard EW, Yabluchanskiy A, Csiszar A, Ungvari Z, Conley SM. (2019) Investigating the role of IGF-1 signaling on mural cells in the pathogenesis of age-related vascular fragility and cognitive decline. *OUHSC Department of Cell Biology Student Seminar Series;* Oklahoma City, Oklahoma.
- **Miller LR**, Tarantini S, Johnston M, Yabluchanskiy A, Csiszar A, Ungvari Z, Conley SM. (2019) Investigating the role of IGF-1 signaling on mural cells in the pathogenesis of age-related vascular fragility and cognitive decline. *2019 OUHSC Department of Cell Biology Research Day poster presentation session;* Oklahoma City, Oklahoma.
- Cruz M, **Bellcock LR**, Sherry DM, Bullen EC, Howard EW, Conley SM. (2018) ETV1 Regulates Phenotypic Switching in Vascular Smooth Muscle Cells. *OUHSC SURP poster presentation session;* Oklahoma City, Oklahoma.
- Murzello M, Bullen EC, **Bellcock LR**, Howard EW, Conley SM. (2017) The Role of Plexin B2 in Phenotypic Switching in Mesenchymal Cells. *OUHSC SURP poster presentation session;*

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Undergraduate

- Luttrell WE, **Bellcock LR**. (2015) Methyl Ethyl Ketone. *Journal of Chemical of Health and Safety*. 22(4): 33-36.
- **Bellcock LR**, Bullen EC, Howard EW, Sherry DM, Watson JN, Conley SM. (2016) Regulation of PDGF-induced phenotypic switching in vascular smooth muscle cells and fibroblasts. *OUHSC SURP poster presentation competition*; Oklahoma City, Oklahoma
- **Bellcock LR**, Bullen EC, Howard EW, Sherry DM, Watson JN, Conley SM. (2016) Regulation of PDGF-induced phenotypic switching in vascular smooth muscle cells and fibroblasts. *Oklahoma Christian University Summer Undergraduate Experience and Research Poster Presentation session*; Edmond, Oklahoma.

Extracurricular Activities and Service

Postgraduate

- *Ad hoc* Journal Review for Scientific Reports, 2024.
- Active member of the Post-Doc Association at OMRF, 2022-2024.

Graduate

- Social Chair, Graduate Student Association Executive Board at OUHSC, 2020-2021.
- Pre-GREAT (Graduate Research Education And Technology Symposium) Workshop Chair, Graduate Student Association Executive Board at OUHSC, 2019-2020.
- Membership in Crimson Club at OUHSC, May 2018-Present.
- Member of the Leadership HSC Class of 2018 at OUHSC.

Undergraduate

- Membership in Philiatros health sciences club, August 2013-April 2017.
 - Volunteering: Luther Community Center (sorting donations for their Free Store), 4 hours.
 - Volunteering: A Day for Lisa service project (helping an adoption center prepare for their Christmas party), 2 hours.
 - Volunteering: Delete Blood Cancer donor drive (assisting people in registering to become bone marrow donors), 12 hours.
 - Junior Class Representative for the 2015-2016 school year.
 - Vice President for the 2016-2017 school year.
- President of the Oklahoma Christian University SouRCe (Science and Religion Club) Advisory Panel, November 2015-April 2017.
 - Presented *The Island: a Discussion About Human Cloning and Ethics* on January 28, 2016.
 - Presented *Transhumanism, an Introduction* on March 3, 2016.
 - Volunteering: *Darwin's Tree* (set-up and clean up for a traveling one-man play), 5 hours.
 - Volunteering: *McGaw Lecture Series 2017-An Evening with Pete Enns* (ushering), 1 hour.