

Date Prepared: 06/07/2023

## ***CURRICULUM VITAE***

**Andrew Nathaniel Stewart, Ph.D**  
**Assistant Professor**  
**Department of Neuroscience**  
**Spinal Cord and Brain Injury Research Center**  
**University of Kentucky College of Medicine**

### **I. GENERAL INFORMATION**

**Office Address**      741 South Limestone, BBSRB/B455  
Lexington, Kentucky, 40536

**Email**                    Andrew.N.Stewart@uky.edu  
**Telephone**              425-533-5704

### **II. EDUCATION**

#### **Undergraduate**

**University of Michigan**  
Ann Arbor, MI

08/2007-04/2012      B.S, Kinesiology/Movement Science

#### **Professional/Graduate**

**Central Michigan University**  
Mount Pleasant, MI

08/2013-04/2016      M.S, Neuroscience  
Mentor: Gary L. Dunbar, Ph.D and Jullien Rossignol, Ph.D

**Central Michigan University**  
Mount Pleasant, MI

04/2016-04/2018      Ph.D, Neuroscience  
Mentor: Gary L. Dunbar, Ph.D and Jullien Rossignol, Ph.D

#### **Post-Graduate**

**University of Kentucky Spinal Cord and Brain Injury Research  
Center**

Lexington, KY

04/2018-04/2019 Post-doctoral Scholar, Age and Mitochondria in Spinal Cord Injury  
Mentor: John C. Gensel, Ph.D.

**University of Kentucky Spinal Cord and Brain Injury Research Center, Lexington, KY**

04/2019-01/2022 Post-doctoral NINDS F32 Fellow  
Age, Sex, and Redox in Spinal Cord Injury  
Mentor: John C. Gensel, Ph.D.

**University of Kentucky Spinal Cord and Brain Injury Research Center, Lexington, KY**

01/2022-06/2022 Post-doctoral Scholar, Regeneration in Spinal Cord Injury  
Mentor: John C. Gensel, Ph.D.  
**University of Kentucky Spinal Cord and Brain Injury Research Center, Lexington, KY**

07/2022-current Post Doctoral Wings for Life Fellow  
Regeneration in Spinal Cord Injury  
Mentor: John C. Gensel, Ph.D.  
**University of Kentucky Spinal Cord and Brain Injury Research Center, Lexington, KY**

### **III. PROFESSIONAL EXPERIENCES**

**University of Michigan**  
Ann Arbor, MI

11/2009/-07/2010 **Undergraduate Researcher**, Neuroscience, part-time. Field: Neuroregeneration. Lab: Goldman Lab. Mentor: Daniel Goldman, Ph.D. and Peter Macpherson, Ph.D

**Spinal and Orthopedic Rehabilitation**  
Novi, MI

04/2011-04/2012 **Physical Therapist Aide**, Rehabilitation, full-time. Mentor: Patty Ogg, PT.

**University of Michigan**

Ann Arbor, MI

- 07/2010-04/2012 **Undergraduate Researcher**, Kinesiology, part-time. Field: Sensorimotor control. Lab: Sensorimotor Control and Learning Lab. Mentor: Sean Meehan, Ph.D.
- 04/2012-04/2013 **Research Technician**, Physical Medicine and Rehabilitation, full-time. Field: Osteoarthritis. Lab: Susan Murphy Lab. Mentor: Susan Murphy, Ph.D.
- 10/2012-04/2013 **Research Assistant**, Physical Medicine and Rehabilitation, part-time. Field: Psychology and Spinal Cord Injury. Mentor: Michelle A. Meade, Ph.D.

**VA Ann Arbor Healthcare System**

Ann Arbor, MI

- 04/2012-04/2013 **Research Technician**, Physical Medicine and Rehabilitation, full-time. Field: Back Pain. Lab: Susan Murphy Lab. Mentor: Susan Murphy, Ph.D.

**Central Michigan University**

Mount Pleasant, MI

- 04/2013-04/2018 **Graduate Research Assistant**, Neuroscience, full-time. Field: Neurotrauma and Neurodegenerative Disease. Lab: Brain Research and Integrative Neuroscience (BRAIN) Center. Mentor: Gary L. Dunbar, Ph.D. and Julien Rossignol, Ph.D.
- 04/2013-04/2018 **Graduate Teaching Assistant**, Neuroscience, full-time. Field: Neuroscience. Lab: Brain Research and Integrative Neuroscience (BRAIN) Center. Mentor: Gary L. Dunbar, Ph.D.

**University of Kentucky; Spinal Cord and Brain Injury Research Center (SCoBIRC)**

Lexington, KY

- 04/2018-05/2023 **Post-Doctoral Scholar/Fellow**, Physiology, Spinal Cord and Brain Injury Research Center (SCoBIRC), full-time. Field: Spinal Cord Injury. Neuro Lab: (Neuroinflammation and Endogenous Repair lab... Oh yeah). Mentor: John C. Gensel, Ph.D.
- 06/2023-present **Assistant Professor**, Neuroscience, Spinal Cord and Brain Injury Research Center (SCoBIRC), full-time. Field: Spinal Cord Injury.

#### **IV. ACADEMIC APPOINTMENTS**

#### **V. HOSPITAL or CLINICAL APPOINTMENTS**

#### **VI. CONSULTING ACTIVITIES**

##### **National/International**

- 08/2021-04/2023      **North American Spinal Cord Injury Consortium (NASCIC) Research Advocacy Training Program Work Group**  
Niagara Falls, NY  
Scientific and lived experience consultant on the development of an advocacy training program.  
<https://nascic.org/courses/nascic-community-engagement-program-cep/>
- 08/2023      **Society for Neuroscience: Brain Primer**  
Washington, DC  
Scientific reviewer for a layman's summary of spinal cord injury in an online edition of Brain Primer.  
www.BrainFacts.org

#### **VII. TEACHING ACTIVITIES**

- 08/2013-04/2018      **Central Michigan University**  
Mount Pleasant, MI  
Behavior Neuroscience Teaching Assistant [NSC 302/Undergraduate]
- 08/2013-04/2016      Neuroscience Seminar Teaching Assistant [BIO 487/Undergraduate]
- 08/2013-04/2018      Undergraduate Research Mentor [BIO 403WI/Undergraduate]
- 08/2023-Present      **University of Kentucky**  
Lexington, KY  
Undergraduate Research Mentor [ANA394]
- 08/2023-Present      Masters Level Research Mentor [ANA790-003]

#### **VIII. ADVISING ACTIVITIES**

##### **Direct Student Lab Mentorship**

- 08/2013-04/2015      **Central Michigan University Mount Pleasant, MI**  
Sarah Zeiler  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester
- 08/2013-04/2015      Alison Goldsmith

Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

08/2013-04/2015 Nicholas Munro  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

08/2013-04/2014 Danielle Loebig  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

8/2014-12/2014 Debriana Chaplin  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

8/2014-4/2015 Paige Litz  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

8/2015-12/2015 Luke Denzer  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

8/2015-12/2015 Paul Veneklas  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

8/2014-4/2015 Paul Edlebeck  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

1/2015-4/2015 Angelyn Kutchinski  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

08/2014-04/2015 Ryan Moore  
Undergraduate/Senior/Neuroscience/3 credit Hrs/semester

01/2014-04/2015 Eric Peterson  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

01/2014-04/2015 Natalie Klenk  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

08/2015-12/2015 Caitlin Wagner  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

08/2015-04/2016 Gabrielle Beauchamp  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

12/2015-04-2016 Nicholas Brandi  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

08/2015-04/2017 Dara Brown  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

08/2015-04/2017	Katelyn Brosnan Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester
08/2014-04/2017	Kelsey Idyle Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester
08/2016-04/2017	Nicholas Thompson Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester
04/2016-12/2017	Katherine Copely Medical Student/ Medicine
01/2016-04/2018	Griffin Kendziorski Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester
01/2016-04/2018	Zachary Deak Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester
08/2016-04/2018	Joseph Pacente Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester
01/2017-04/2018	Nathan Bartosek Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester
08/2017-04/2018	Brooke Rezmer Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester
08/2017-04/2018	Mathew Fini Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester
	<b><u>University of Kentucky Lexington, KY</u></b>
01/2019-04/2020	Lauren Tranthem Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester
01/2021-04/2021	John Lowe Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester
01/2021-08/2021	Alexa Haliburton Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester
04/2021-08/2021	Lynnet Richey Medical/Student/MD/PH.D.
01/2022-12/2022	Caroline Easely Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester

### **Course Credit Seeking Student Mentorship**

#### **University of Kentucky Lexington, KY**

- 12/2022-present Kennedy Park  
Undergraduate/Junior-Senior/Neuroscience/3 credit Hrs/semester  
ANA 394 Fall 2023
- 5/2023-present Christopher Bosse-Joseph  
Masters/Neuroscience/3 credit Hrs/semester  
Mentee in the African American Research Training Scholarship program  
ANA 790 Fall 2023

### **Thesis and Dissertation Seeking Student Mentorship Role-Primary Mentor**

#### **University of Kentucky Lexington, KY**

##### **Undergraduate Honors Thesis Level**

- 9/2023-present Kennedy Park  
Mentee for Honors Thesis in the Honors College  
Project Title:

##### **Master's Thesis Level**

- 9/2023-present Christopher Bosse-Joseph  
Mentee in the Master of Science in Medical Sciences program (MSMS)  
Project Title

##### **Doctoral Dissertation Level**

### **Thesis and Dissertation Seeking Student Mentorship Role-Mentoring Committee**

#### **University of Kentucky Lexington, KY**

##### **Undergraduate Honors Thesis Level**

##### **Master's Thesis Level**

- 9/2023-present Gabrielle Brown  
Mentee in the Master of Science in Medical Sciences program (MSMS)  
Project Title

**Doctoral Dissertation Level**

**Central Michigan University, Mount Pleasant, MI**

**Doctoral Dissertation Level**

9/2023-present      Negin Mojarradlangroudi  
PI: Dr. Gary L. Dunbar  
Doctor of Neuroscience (Ph.D)  
Project Title

**IX. ADMINISTRATIVE ACTIVITIES & UNIVERSITY SERVICE**

**Department**

**University of Kentucky**  
Department of Physiology  
Lexington, KY

06/2021-12/2022      **Administration & Clinical Operations**  
Department of Physiology Post-Doctoral Representative

**University of Kentucky**  
Spinal Cord and Brain Injury Research Center  
Lexington, KY

11/2022-5/2023      **University Service**  
Kentucky Spinal Cord and Head Injury Research Trust Annual  
Symposium Organization Committee.

08/2023-Present      **Department/Center Service**  
Journal Club Organizer for the Spinal Cord and Brain Injury Research  
Center (SCoBIRC).

**X. SPECIAL ASSIGNMENTS**

**XI. HONORS & AWARDS**

08/2013      Jeff Lichon Spinal Cord Injury Foundation Neuroscience Scholarship  
Endowment Recipient

04/2015	Graduate Student Research and Creative Endeavors Grant, College of Graduate Studies at Central Michigan University.
03/2017	Travel Grant Award, American Society for Neural Therapy and Repair (ASNTR)
10/2017	Graduate Presentation Grant, Office of Research and Graduate Studies at Central Michigan University.
10/2017	Dissertation Support Grant, College of Graduate Studies at Central Michigan University.
10/2017	Presentation Grant, College of Humanities and Social and Behavioral Sciences at Central Michigan University.
10/2021	Outstanding Post-doc Award, University of Kentucky's College of Medicine.
10/2021	Outstanding Poster Presentation, University of Kentucky Department of Physiology Research Retreat.

## **XII. PROFESSIONAL ACTIVITIES, PUBLIC SERVICE & PROFESSIONAL DEVELOPMENT**

### **Memberships**

01/2014-08/2018	Michigan Chapter of the Society for Neuroscience
01/2015-present	Society for Neuroscience
01/2019-12/2019	Bluegrass Society for Neuroscience
01/2019-present	National Neurotrauma Society

### **Advisory Groups**

08/2021-04/2023	Scientific and lived experience consultant. North American Spinal Cord Injury Consortium (NASCI) Research Advocacy Training Program Work Group
03/2023-present	Spinal Cord Injury T4 Translational Work Group. Unite 2 Fight Paralysis (U2FP).

### **Review Panels (ad hoc)**

02022	<b>Morton Cure for Paralysis Foundation</b> Grant Reviewer
2022	<b>Deutsche Forschungsgemeinschaft (DFG)</b> Invited Grant Reviewer
2023	<b>Fonds National Suisse, Schweizerischer Nationalfonds: Swiss National Science Foundation (FNSNF)</b> Invited Grant Reviewer

## **Journal Peer-Reviewing (ad hoc)**

2019, 2023	Cell Transplantation
2020	PLOS ONE
2020, 2023	Neural Regeneration Research
2021, 2023	Journal of Neuroinflammation
2021	Biomed Research International
2021	International Journal of Experimental Pathology
2022, 2023	Scientific Reports
2022	Journal of Integrative Neuroscience
2022	Behavioural Brain Research
2023	Pathophysiology

## **Media Contributions**

	<b>Central Michigan Life</b>
12/2017	CMU graduate student conducts research for spinal cord injuries. Paper press, Mount Pleasant, MI, Sarah Kellner. <a href="http://www.cm-life.com/article/2017/12/spinal-cord-injury-research-feature">http://www.cm-life.com/article/2017/12/spinal-cord-injury-research-feature</a> .
	<b>Fox News 9&amp;10</b>
12/2017	Central Michigan University Graduate Inspired By Brother To Study Spinal Cord Injuries. News Coverage. Mount Pleasant, MI, Jones T. <a href="http://www.9and10news.com/2017/12/08/central-michigan-university-graduate-inspired-brother-study-spinal-cord-injuries/">http://www.9and10news.com/2017/12/08/central-michigan-university-graduate-inspired-brother-study-spinal-cord-injuries/</a> .

## **Professional Development**

	<b>University of Kentucky</b>
02/2020	Seminar/Continuing education/ Scientific Publishing in the Digital Age. Gary Ward, Ph.D.
02/2020	Responsible conduct of research training/ Ebola Clinic Research: A Precedent for Research Ethics in a time of Crisis. Derek Forster, Ph.D.
02/2020	Responsible conduct of research training/ Good Research Practice Seminar #1: Methods to Promote Data Reproducibility in Laboratory Research (Data Reproducibility Crisis & Response; Written Methods), Richard Grondin, Ph.D, and Meagan Littrell, Ph.D.
03/2020	Responsible conduct of research training/ Good Research Practice Seminar #2: Methods to Promote Data Reproducibility in Laboratory Research. (Good Documentation Practices; Data Sharing & Record Retention). Richard Grondin, Ph.D, and Meagan Littrell, Ph.D.
03/2020	Responsible conduct of research training/ Good Research Practice Seminar #3: Methods to Promote Data Reproducibility in Laboratory Research. (Personnel Training; Equipment Management). Richard Grondin, Ph.D, and Meagan Littrell, Ph.D.
9/2023-11/2023	<b>Mentor Training: Entering Mentoring</b>

Mentorship Training Hosted by the University of Kentucky.

**Sarah Dobson & Co**

07/2022-09/2022 Continuing Education/ Edge For Scholars Online Grant Writing Workshop/ Sarah Dobson, Ph.D

**XIII. SPEAKING ENGAGEMENTS** [Invited lectureships, panel sessions; oldest at top, newest at bottom in each section]

**Local**

- 11/2015 “SDF-1 Overexpression by Mesenchymal Stem Cells Enhances GAP-43 Positive Regenerating Axons After Spinal Cord Injury”. Spine and Critical Care Grand Rounds Sponsored by the Field Neurosciences Institute (FNI), **St. Mary’s Hosptial**, Saginaw, MI
- 05/2017 “State of Clinical Research for Stem Cell Therapies to Treat Spinal Cord Injury and Current Efforts to Improve Transplantation Efficacy in Animal Models”. Spine and Critical Care Grand Rounds Sponsored by the Field Neurosciences Institute (FNI), **St. Mary’s Hosptial**, Saginaw, MI
- 02/2018 “Gradients of Neurotrophin-3 to Treat Spinal Cord Injury”. Spine and Critical Care Grand Rounds Sponsored by the Field Neurosciences Institute (FNI), **St. Mary’s Hosptial**, Saginaw, MI
- 11/2019 “Are We Doing it Wrong? Inappropriate Modeling of SCI by Sex and Age Matters More than You Think”. **Georgetown College Science Honors Invited Lecture**, Georgetown, KY
- 10/2021 “Physiological Differences with Sex and Age Affect Spinal Cord Injury Pathology and Response to Treatments”. **Department of Physiology, University of Kentucky Invited Lecture**, Lexington, KY
- 11/2022 “Restoring Function in Chronic Stages of Spinal Cord Injury with Gene-Therapy Approaches”. Spine and Critical Care Grand Rounds Sponsored by the Field Neurosciences Institute (FNI), **St. Mary’s Hosptial**, Saginaw, MI
- 04/2023 “Barriers to Axon Regeneration in the Chronically Injured Spinal Cord”. Department of Neuroscience and the Spinal Cord and Brain Injury Research Center (SCoBIRC), **University of Kentucky**, Lexington, KY.

**State/Regional**

- 09/2017 “Combinational Approaches Using Chemokine/Trophic Factor Overexpression, Mesenchymal, and Neural Stem Cells to Treat Spinal Cord Injury” **Kentucky Spinal Cord Research Center, University of Louisville**, Louisville, KY
- 09/2017 “Combinational Approaches Using Chemokine/Trophic Factor Overexpression, Mesenchymal, and Neural Stem Cells to Treat Spinal Cord Injury”. **Spinal Cord and Brain Injury Research Center, University of Kentucky Invited Lecture**, Lexington, KY
- 09/2017 “Combinational Approaches Using Chemokine/Trophic Factor Overexpression, Mesenchymal, and Neural Stem Cells to Treat Spinal Cord Injury” . **Department of Biomedical Engineering, University of Michigan**, Ann Arbor, MI
- 05/2021 “Therapeutic Implications of a Changing SCI Demographic”. Symposium. **26<sup>th</sup> Annual Kentucky Spinal Cord and Head Injury Research Trust (KSCHIRT) Meeting**, Louisville, KY

### *National/International*

- 04/2017 “Overexpressing SDF-1 for Enhancing the Therapeutic Efficacy of MSC and NSC Transplantations for Treating Spinal Cord Injuries” **24<sup>th</sup> Annual American Society for Neural Therapy and Repair**, Clearwater, FL
- 06/2021 “Therapeutic Implications of a Changing SCI Demographic”. **International Online Spinal Cord Injury Research Symposium (IOSCIRS)**. Virtual Online, Earth
- 07/2022 “Physiological Differences with Sex and Age Affect Spinal Cord Injury Pathology and Response to Treatments”. **Neurotrauma 2022, National Neurotrauma Symposium**, Atlanta, GA
- 11/2022 “How Lived Experience Can Redirect Life and Shape Priorities of Research Efforts”. Session: *Who Speaks for the Community? How Storytelling Unites Research and Society on the Quest to Improve the Lives of Individuals with Spinal Cord Injury*. **Neuroscience 2022, Society for Neuroscience Meeting**, San Diego, CA

## **XIV. RESEARCH & INTELLECTUAL CONTRIBUTIONS**

## A. PUBLICATIONS

\*Co-corresponding author

### Peer-Reviewed Original Research in Professional, Scientific or Educational Journals

1. Matyas, J.J., **Stewart, A.N.**, Goldsmith, A., Nan, Z., Skeel, R.L., Rossignol, J., Dunbar, G.L. (2017). Effects of bone-marrow-derived MSC transplantation on functional recovery in a rat model of spinal cord injury: comparisons of transplant locations and cell concentrations. *Cell Transplant.* Apr 26. doi: 10.3727/096368917X695678. PubMed PMID: 28447572.
2. **Stewart, A.N.**, Matyas, J.J., Welchko, R.M., Goldsmith, A., Zeiler, S., Hochgeschwender, U., Lu, M., Nan, Z., Rossignol, J., & Dunbar, G.L. (2017). SDF-1 Overexpression by Mesenchymal Stem Cells Enhances GAP-43-Positive Axonal Growth Following Spinal Cord Injury. *Restor Neurol Neurosci.* Jun 6. doi: 10.3233/RNN-160678. PubMed PMID: 28598857.
3. Srinageshwar, B., Peruzzaro, S., Andrews, M., Johnson, K., Hietpas, A., Clark, B., McGuire, C., Petersen, E., Kippe, J., **Stewart, A.**, et al. (2017). PAMAM Dendrimers Cross the Blood-Brain Barrier When Administered through the Carotid Artery in C57BL/6J Mice. *Int J Mol Sci.* Mar 14;18(3). pii: E628. doi: 10.3390/ijms18030628. PubMed PMID: 28335421; PubMed Central PMCID: PMC5372641.
4. **Stewart, A.N.**, Kendzierski, G., Deak, Z.M., Brown, D.J., Fini M.N., Copely, K.L., Rossignol, J., & Dunbar, G.L. (2017). Co-Transplantation of Mesenchymal and Neural Stem Cells and Overexpressing Stromal-Derived Factor-1 for Treating Spinal Cord Injury. *Brain Research.* July 26. doi: 10.1016/j.brainres.2017.07.005 PubMed PMID: 28734802.
5. Al-Gharaibeh, A., Culver, R., **Stewart, A.N.**, Srinageshwar, B., Spelde, K., Frolo, L., Kolli, N., Story, D., Paladugu, L., Anwar, S., Crane, A., Wyse, R., Maiti, P., Dunbar, G.L., & Rossignol, J. (2017). Induced Neural Stem Cell Transplantation Reduced Behavioral Deficits and Ameliorated Neuropathological Changes in YAC128 Mouse Model of Huntington's Disease. *Frontiers in Neuroscience.* Nov 10. doi: 10.3389/fnins.2017.00628. eCollection 2017. PubMed PMID: 29209158
6. **Stewart, A.N.**, Kendzierski, G., Deak, Z.M., Bartosek, N.C., Rezmer, B.E., Jenrow, K., Rossignol, J., & Dunbar, G.L. (2018). Transplantation of Mesenchymal Stem Cells that Overexpress NT-3 Produce Motor Improvements without Axon Regeneration following Complete Spinal Cord Transections in Rats. *Brain Research.* Nov 15. Doi: 10.1016/j.brainres.2018.06.002. PubMed PMID: 29883625.
7. Munro, N., Srinageshwar, B., Shalabi, F., Florendo, M., Otero, P., Thompson, C., Kippe, J., Malkowski, C., Climie, S., **Stewart, A.**, Kim, R., Zhou, J., Swanson, D., Dunbar, G.L., Sharma, A., Rossignol, J. (2019). A Novel Approach to Label Bone Marrow-Derived Mesenchymal Stem Cells with Mixed-Surface PAMAM Dendrimers. *Stem Cell Research & Therapy.* Feb 28;10(1):71. doi: 10.1186/s13287-019-1171-7. PMID: 30819246; PMCID: PMC6393977.
8. Zhang, B., Bailey, W.M., McVicar, A.L., **Stewart, A.N.**, Veldhorst, A.K., & Gensel, J.C. (2019). Reducing age-dependent monocyte-derived macrophage activation contributes to the therapeutic efficacy of NADPH oxidase inhibition in spinal cord injury. *Brain Behav*

- Immun.* 2018 Nov 16. pii: S0889-1591(18)30342-8. doi: 10.1016/j.bbi.2018.11.013. PMID: 30453022; PMCID: PMC6348135.
9. **Stewart, A.N.**, Gensel, J.C., & Zhang, B. Therapeutic Implications of Advanced Age at Time of Spinal Cord Injury. (2019). *Neural Regeneration Research*. 2019 Nov;14(11):1895-1896. doi: 10.4103/1673-5374.259606. PubMed PMID: 31290439; PubMed Central PMCID: PMC6676888.
  10. Devanney, N.A., **Stewart, A.N.**, & Gensel, J.C., (2020). Microglia and Macrophage Metabolism in CNS Injury and Disease: The Role of Immunometabolism in Neurodegeneration and Neurotrauma. *Experimental Neurology* ul;329:113310. doi: 10.1016/j.expneurol. 2020.113310. Epub 2020 Apr 11. PMID: 32289316; PMCID: PMC7237336.
  11. **Stewart, A.N.**, MacLean, S.M., Stromberg, A.J., Whelan, J.P., Bailey, W.M., Gensel, J.C., Wilson, & M.E. (2020). Considerations for Studying Sex as a Biological Variable in Spinal Cord Injury. *Front Neurol.* Aug 5;11:802. doi: 10.3389/fneur.2020.00802. Erratum in: *Front Neurol.* Oct 20;11:597689. PMID: 32849242; PMCID: PMC7419700.
  12. **Stewart, A.N.**, McFarlane, K.E., Vekaria, H., Bailey, W., Tranthem, L.A., Patel, S.P., Zhang, B., Sullivan, P., & Gensel, J.C. (2021). Mitochondrial Uncoupling with 2,4 Dinitrophenol Exerts Age-Divergent Effects After Spinal Cord Injury. *Exp Neurol.* Mar;337:113597. doi: 10.1016/j.expneurol.2021.113597. Epub 2021 Jan 7. PMID: 33422552; PMCID: PMC7870583.
  13. **Stewart, A.N.**, Lowe, J.L., Glaser, E.P., Mott, C.A., Shahidehpour, R.K., McFarlane, K.E., Bailey, W.M., Zhang, B., & Gensel, J.C. (2021). Acute Inflammatory Profiles Differ with Sex and Age after Spinal Cord Injury. *J Neuroinflammation.* May 13;18(1):113. doi: 10.1186/s12974-021-02161-8. PMID: 33985529.
  14. **Stewart, A.N.\***, Glaser, E.P., Bailey, W.M., & Gensel, J.C., (2022). Immunoglobulin G is Increased in the Injured Spinal Cord in a Sex and Age Dependent Manner. *J Neurotrauma.* 2022 Apr 4;. doi: 10.1089/neu.2022.0011. PubMed PMID: 35373588..
  15. **Stewart, A.N.\***, Glaser, E.P., Mott, C.A., Bailey, W.M., Sullivan, P.G., Patel, S.P., & Gensel, J.C., (2022). Advanced Age and Neurotrauma Diminish Glutathione and Impair Antioxidant Defense After Spinal Cord Injury. *J Neurotrauma.* 2022 Apr 4;. doi: 10.1089/neu.2022.0010. PubMed PMID: 35373589.
  16. **Stewart, A.N.**, Jones L.A.T., & Gensel, J.C. (2022). Improving Translatability of Spinal Cord Injury Research by Including Age as a Demographic Variable. *Front. Cell Neurosci.* 2022 Nov 4; doi: 10.3389/fncel.2022.1017153. PMID: 36467608; PMCID: PMC9714671
  17. **Stewart, A.N.\***, Kumari, R., Bailey, W.M., Glaser, E.P., Hammers, G.V., Wireman, O.H., & Gensel, J.C. (2023). PTEN knockout using retrogradely transported AAVs transiently restores locomotor abilities in both acute and chronic spinal cord injury. *Exp. Neurol.* Apr 17:2023.04.17.537179. doi: 10.1101/2023.04.17.537179. PMID: 37131840; PMCID: PMC10153160.
  18. Glaser EP, **Stewart A.N.**, Jagielo-Miller JE, Bailey CS, Prendergast MA, Gensel JC. (2023). Effects of Acute Ethanol Intoxication on Spinal Cord Injury Outcomes in

Female Mice. J Neurotrauma. 2023 Jul 21. doi: 10.1089/neu.2023.0077. Epub ahead of print. PMID: 37350129.

19. **Stewart A.N.**, Gensel J.G., Jones, L.A.T., & Fouad, K (2023). Challenges in translating regenerative therapies for spinal cord injury. TSCIR. (Accepted, in press).

*\*Denotes corresponding author*

## **Acknowledgements:**

Duggan C, Wilson C, DiPonio L, Trumpower B, Meade MA. [Resilience and Happiness After Spinal Cord Injury: A Qualitative Study](#). Top Spinal Cord Inj Rehabil. 2016 Spring;22(2):99-110. doi: 10.1310/sci2202-99. PubMed PMID: 29339852; PubMed Central PMCID: PMC4896325.

## **B. ABSTRACT PRESENTATIONS**

### **Local/State/Regional Meetings**

2015. **Stewart A.N.**, Matyas J.J., Welchko R.M., Goldsmith A., Peterson E.D., Zeiler S.E., Lu M., Nan Z., Rossignol J., and Dunbar G. Inducing Chemotaxis using SDF-1 Overexpressing MSCs for Spinal Cord Injury. Poster Presentation Michigan Society for Neuroscience Conference. Western Michigan University, Kalamazoo, MI.
2015. Matyas, J.J., **Stewart, A.N.**, Goldsmith, A., Zeiler. S.E., Nan, Z., Rossignol, J., & Dunbar, G.L. Effects of bone marrow-derived MSC transplantation on a rat model of spinal cord injury. 46<sup>th</sup> Michigan Chapter Society for Neuroscience. Mount Pleasant, MI, USA. Presenter: Jessica Matyas.
2015. Petersen E.D., **Stewart A.N.**, Rossignol J., Hochgeschwender U., and Dunbar G. Mesenchymal Stem Cells that are genetically altered to overexpress SDF-1 increase growth of neural stem cell derived neurons and neural stem cell migration. Poster Presentation. National Society for Neuroscience Conference. Mount Pleasant, MI. Presenter: Eric Petersen.
2016. **Stewart, A.N.**, Matyas, J.J., Welchko, R.M., Goldsmith, A., Peterson, E.D., Zeiler, S.E., Lu, M., Nan, Z., Rossignol, J., and Dunbar, G. SDF-1 Overexpression from Transplanted MSCs Enhance the Therapeutic Efficacy of Stem-Cell-Based Regenerative Strategies in a Rat Contusion Model of Spinal Cord Injury. Poster Presentation. Michigan Society for Neuroscience Conference. Central Michigan University, Mount Pleasant, MI.
2016. Goldsmith, A.D., **Stewart, A.N.**, Matyas, J.J., Siegel, L.R., Jeakle, M.M., Nan, Z., Rossignol, J., and Dunbar, G.L. Optimizing Histological Techniques in Fixed Frozen Samples of the Injured Spinal Cord. Poster Presentation. Student Research and Creative Endeavors. Mount Pleasant, MI. Presenter: Alison Goldsmith
2016. Idyle, K.R., Copely, K., **Stewart, A.N.**, Huffman L.D., Knight, L., Jeakle, M.M., Siegel, L.R., Antcliff, A., Dues, D., Fink, K., Hochgeschwender, U., Lu, M., Rossignol, J., and Dunbar, G.L. In Vivo Techniques to Model Growth in a Rodent Model of Glioblastoma

- Multiforme. Poster Presentation. Student Research and Creative Endeavors. Mount Pleasant, MI. Presenter: Kelsey Idyle
2016. Copely, K., Idyle, K., **Stewart, A.N.**, Jeakle, M., Hochgeschwender, U., Dunbar, G., Rossignol, J. Co-transplantation of mesenchymal stem cells and neural stem cells in combinational therapy for glioblastoma multiforme. Poster Presentation. CMED Student and Resident Research Symposium. Mount Pleasant, MI. Presenter: Katherine Copely
2017. **Stewart, A.N.**, Kendziorski, G., Deak, Z.M., Brown, D.J., Fini M.N., Copely, K.L., Rossignol, J., & Dunbar, G.L. Co-Transplantation of Mesenchymal and Neural Stem Cells and Overexpressing Stromal-Derived Factor-1 for Treating Spinal Cord Injury. Michigan Society for Neuroscience Conference. University of Michigan, Ann Arbor, MI.
2019. **Stewart, A.N.**, McFarlane, K.E., Vekaria, H.J., Bailey, W.M., Patel, S.P., Sullivan, P.G., & Gensel, J.G. Regulation of Mitochondrial Membrane Potential Changes from a Role of Recovery to Pathology with Increased Age at Time of Spinal Cord Injury. Blue Grass Society for Neuroscience and University of Kentucky Post-Doctoral Research Symposium. Lexington, KY.
2019. **Stewart, A.N.**, McFarlane, K.E., Vekaria, H.J., Bailey, W.M., Patel, S.P., Sullivan, P.G., & Gensel, J.G. Mitochondrial Uncoupling with 2',4'-Dinitrophenol Exerts Age Dependent Effects after Spinal Cord Injury. 26<sup>th</sup> Annual Kentucky Spinal Cord & Head Injury Research Trust Symposium. Louisville, KY
2021. **Stewart, A.N.**, Glaser, E.P., Bailey, W.M., McFarlane, K.E., Vekaria, H.J., Tranthem, L.A., Zhang, B., MacLean, S.M., Whelan, J.P., Lowe, J.L., Mott, C.A., Shahidehpour, R.K., Wilson, M.E., Hall, E., Patel, S.P., Sullivan, P.G., & Gensel, J.C. Physiological Differences with Sex and Age Affect Spinal Cord Injury Pathology and Response to Treatments. University of Kentucky Physiology Research Retreat 2021. Lexington, KY.
2022. **Stewart, A.N.**, Zhang, B., Patel, S.P., & Gensel, J.C. Macrophage and Microglial Derived Reactive Oxygen Species are Key Determinants of Age-Dependent Differences in Secondary Injury After SCI. 29<sup>th</sup> Annual Kentucky Spinal Cord & Head Injury Research Trust Symposium. Louisville, KY.
2022. **Stewart, A.N.**, Kumari, R., Bailey, W.M., Glaser, E.P., Wireman, O.H., & Gensel, J.C. Knockout of PTEN Using Intraspinial Injections of Retrograde AAVs Targets Spared and Damaged Axons after Spinal Trauma and Restores Function in Both Acute and Chronic Spinal Cord Injury. University of Kentucky Physiology Research Retreat 2022. Lexington, KY.
2022. **Stewart, A.N.**, Kumari, R., Bailey, W.M., Glaser, E.P., Wireman, O.H., & Gensel, J.C. Neuronal-Specific Deletion of PTEN Using Retrograde AAVs Induces Axon Regeneration and Restores Motor Functions in Both Acute and Chronic SCI. University of Kentucky Neuroscience Clinical-Translational Research Symposium. 2022. Lexington, KY.

### **National/International Meetings**

2015. **Stewart A.N.**, Matyas J.J., Welchko R.M., Goldsmith A., Peterson E.D., Zeiler S.E., Lu M., Nan Z., Rossignol J., and Dunbar G. Transplantation of Mesenchymal Stem Cells that are

- Genetically Altered to Overexpress SDF-1 for Treating Spinal Cord Injury. Poster Presentation. National Society for Neuroscience Conference. Chicago, IL.
2015. Matyas, J.J., **Stewart, A.N.**, Goldsmith, A., Zeiler, S.E., Nan, Z., Rossignol, J., & Dunbar, G.L. Optimizing transplantation of bone marrow-derived MSCs in a rat model of spinal cord injury: facilitating functional recovery through improvement in micro environment. American Society for Neural Therapy and Repair. Clearwater, FL, USA. Presenter: Jessica Matyas
2015. Matyas, J.J., **Stewart, A.N.**, Goldsmith, A., Zeiler, S.E., Nan, Z., Rossignol, J., & Dunbar, G.L. Effects of varying bone marrow-derived MSC concentrations and transplant locations for reducing motor and morphological deficits in a rat model of spinal cord injury. Nanosymposium: 44<sup>th</sup> Annual Society for Neuroscience Meeting, Chicago, IL, USA. Presenter: Jessica Matyas
2017. **Stewart, A.N.**, Kendziorski, G., Deak, Z.M., Brown, D.J., Fini M.N., Copely, K.L., Rossignol, J., & Dunbar, G.L. Co-Transplantation of Mesenchymal and Neural Stem Cells and Overexpressing Stromal-Derived Factor-1 for Treating Spinal Cord Injury. National Society for Neuroscience Conference. Washington DC.
2019. **Stewart, A.N.**, Orr, M.B., Kopper, T.J., McFarlane, K.E., Zhang, B., Bailey, W.M., & Gensel, J.G. Inflammation After Spinal Cord Injury: Not The Same For Everyone. SCI2020. Bethesda, MD.
2019. **Stewart, A.N.**, McFarlane, K.E., Vekaria, H.J., Bailey, W.M., Patel, S.P., Sullivan, P.G., & Gensel, J.G. Mitochondrial Uncoupling with 2',4'-Dinitrophenol Exerts Age Dependent Effects after Spinal Cord Injury. Neurotrauma 2019. Pittsburgh, PD.
2019. **Stewart, A.N.**, McFarlane, K.E., Vekaria, H.J., Bailey, W.M., Patel, S.P., Sullivan, P.G., & Gensel, J.G. Mitochondrial Uncoupling with 2',4'-Dinitrophenol Exerts Age Dependent Effects after Spinal Cord Injury. Society for Neuroscience 2019. Chicago, IL.
2020. **Stewart, A.N.**, Seward, C.A., McFarlane, K.E., Bailey, W.M., Zhang, B., & Gensel, J.G. Age and Sex Influence Inflammatory Profiles and Anti-Oxidant Defenses After Spinal Cord Injury. International Symposium on Neural Regeneration: The ISNR. Pacific Grove, CA.
2021. **Stewart, A.N.**, Glaser E.P., Seward, C.A., Saghaeiannejad-Efahani, H., Bailey, W.M., Patel, S.P., Sullivan, P.G., & Gensel, J.G. N-Acetylcysteine Amide Does Not Improve Locomotor Outcomes Despite Restoring Diminished Glutathione After Spinal Cord Injury. Neurotrauma 2021: NNS 2021. Virtual Online
2023. **Stewart, A.N.**, Kumari, R., Bailey, W.M., Glaser, E.P., Park, K.A., Hammers, G.V., Wireman, O.H., & Gensel, J.C. Improving Axon Regeneration in the Chronically Injured Spinal Cord Through Delayed Macrophage Manipulation. 2023 Wings for Life Scientific Meeting. Salzburg, Austria.

### **C. SPONSORED RESEARCH PROJECTS, GRANT & CONTRACT ACTIVITIES**

[oldest at top, newest at bottom in each section; include Pending]

#### **Active**

**Project Title:** **Improving Axon Regeneration in the Chronically Injured Spinal Cord Through Delayed Macrophage Manipulation**  
**Project Number:** WFL-US-13/22  
**Principal Investigator(s):** Andrew N. Stewart, Ph.D  
**Role in Project:** Principal Investigator  
**Effort:** 100 %  
**Institution/University:** University of Kentucky  
**Source of Funding:** Wings for Life Foundation  
**Duration of Project:** 07/2022-07/2024  
**Total Award:** \$120,641

**Completed**

**Project Title:** **Role of Age on Anti-oxidant Defense in Spinal Cord Injury: Physiological Changes and Intervention.**  
**Project Number:** 1F32NS111241-01  
**Principal Investigator(s):** Andrew N. Stewart, Ph.D; Mentor: John C. Gensel, Ph.D.  
**Role in Project:** Fellow and Principal Investigator  
**Effort:** 100 %  
**Institution/University:** University of Kentucky  
**Source of Funding:** National Institute of Health (NIH) and National Institute of Neurological Disorders and Stroke (NINDS): F32 Ruth L. Kirschstein National Research Service Award.  
**Duration of Project:** 04/2019-04/2021  
**Total Award:** \$61,222/yr

**Project Title:** **Continuation: Role of Age on Anti-oxidant Defense in Spinal Cord Injury: Physiological Changes and Intervention.**  
**Project Number:** 1F32NS111241-02-Revised  
**Principal Investigator(s):** Andrew N. Stewart, Ph.D  
**Role in Project:** Fellow and Principal Investigator  
**Effort:** 100 %  
**Institution/University:** University of Kentucky  
**Source of Funding:** National Institute of Health (NIH) and National Institute of Neurological Disorders and Stroke (NINDS): F32 Ruth L. Kirschstein National Research Service Award.  
**Duration of Project:** 04/2021-10/2021  
**Total Award:** \$34,281/yr

**Project Title:** **Role of Age on Anti-oxidant Defense in Spinal Cord Injury: Physiological Changes and Intervention.**  
**Project Number:** N/A

**Principal Investigator(s):** Andrew N. Stewart, Ph.D  
**Role in Project:** Principal Investigator  
**Effort:** N/A  
**Institution/University:** University of Kentucky  
**Source of Funding:** Craig H. Neilsen Foundation  
**Duration of Project:** N/A  
**Total Award:** Awarded but turned down for F32

**Project Title:** **Chronic Interventions to Improve Bladder and Kidney Dysfunction after Spinal Cord Injury**  
**Project Number:** NRPA  
**Principal Investigator(s):** Andrew N. Stewart, Ph.D  
**Role in Project:** Principal Investigator  
**Effort:** 25 %  
**Institution/University:** University of Kentucky  
**Source of Funding:** Neuroscience Research Priority Area Pilot Grant (NRPA) from The University of Kentucky  
**Duration of Project:** 06/2020-06/2021  
**Total Award:** \$25,000

**END OF DOCUMENT**