

CURRICULUM VITAE

Angela N. Pierce, D.C., Ph.D.

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EDUCATION

- | | |
|------|--|
| 2015 | Ph.D., Neuroscience
University of Kansas Medical Center
Kansas City, KS |
| 2010 | Doctor of Chiropractic, <i>cum laude</i> with Research Honors
Palmer College of Chiropractic
Davenport, IA |
| 2006 | B.S., Biochemistry
B.A., Spanish
Missouri Southern State University
Joplin, MO |

RESEARCH EXPERIENCE

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|-------------|--|
| 2015 – 2016 | Post-doctoral Fellow, University of Kansas Medical Center
<i>Cystometric evaluation of bladder dysfunction in female mice following early life stress</i> |
| 2010 – 2015 | Graduate Research Assistant, University of Kansas Medical Center
<i>Neonatal maternal separation in mice as a pre-clinical model for female chronic pelvic pain</i> |

2009 – 2010	Principle Investigator, Palmer Center for Chiropractic Research <i>Clinical interpretation of surface electromyography</i>
2007 – 2009	Research Assistant, Palmer Center for Chiropractic Research
2005	Internship, Missouri Southern State University and Instituto Tecnológico de Costa Rica <i>Medicinal properties of the endemic plants of Costa Rica</i>

CLINICAL EXPERIENCE

Board Certified	National Board of Chiropractic Examiners, 2010 Parts I – IV Physiotherapy
Medical Licensure	Eligible, State Board of Chiropractic Examiners
Internship	Lead intern, Academic Health Center, Jan 2010 – June 2010 Palmer College of Chiropractic
Internship	Academic Health Center, May 2009 – Jan 2010 Palmer College of Chiropractic
Golf Fitness Instructor	Level I Certified, 2009 Titleist Performance Institute
Internship	Campus Health Center, Oct 2008 – May 2009 Palmer College of Chiropractic
Service Internship	Traveling clinic, Oct 2009 Vanuatu, Fiji
Gross Anatomy	Cadaver prosection, 2010 – 2011 8 credit hours, Palmer College of Chiropractic
Spinal Anatomy	Cadaver prosection, 2010 – 2011 4 credit hours, Palmer College of Chiropractic
Human Anatomy	Feline dissection, 2005

5 credit hours, Missouri Southern State University

TEACHING EXPERIENCE

- 2017 – 2018 Lecturer: Introduction to Medical Terminology and Anatomy (2 hours)
Summer Learning Enhancement Program
Kansas City University of Medicine and Biosciences, Joplin
Prospective, July 2017
- Lecturer: Erythrocyte Physiology (2 hours)
Molecular and Cellular Mechanisms
College of Osteopathic Medicine
Kansas City University of Medicine and Biosciences, Joplin
Prospective, July 2017
- Course Director: Renal Physiology (21 hours)
College of Osteopathic Medicine
Kansas City University of Medicine and Biosciences, Joplin
Prospective, December 2017
- Lecturer: Neuroscience I (16 hours)
College of Osteopathic Medicine
Kansas City University of Medicine and Biosciences, Joplin
Prospective, March 2018
- 2010 Clinical Teaching Assistant:
Academic Health Center,
Palmer College of Chiropractic
- 2008 – 2009 Neuroanatomy of Peripheral Nervous System:
Instructor, Palmer Academic Support Services
Palmer College of Chiropractic
- 2006 Teaching Assistant: Chemistry
Missouri Southern State University
- 2003 – 2006 Tutor: Biology 101
Student Success Center
Missouri Southern State University

2003 – 2006	Tutor: College Algebra Student Success Center Missouri Southern State University
2005	Teaching Assistant: Biology 101 Instituto Tecnológico de Costa Rica
2003	Tutorial Training Course: 2 academic credit hours Student Success Center, Missouri Southern State University

HONORS AND AWARDS

2015	Best Resident/Post-Doc Poster Presentation Award 3 rd Annual Women in Medicine and Science Poster Session University of Kansas Medical Center
2015	Dissertation Defense Honors University of Kansas Medical Center
2015	2 nd place, Student Research Forum University of Kansas Medical Center
2014 – 2015	Early Career Policy Fellowship Society for Neuroscience
2011 – 2015	Madison and Lila Self Graduate Fellowship University of Kansas, \$165,000
2014	Professional Development Travel Award Self Graduate Fellowship, \$500
2014	Distinguished Poster Presentation Award Kansas IDEa Network of Biomedical Research Excellence annual symposium, \$100
2013	1 st place, Student Research Forum

	University of Kansas Medical Center, \$100
2013	Student Travel Scholarship University of Kansas Medical Center, \$500
2013	Distinguished Poster Presentation Award Kansas IDeA Network of Biomedical Research Excellence annual symposium, \$100
2012	Distinguished Poster Presentation Award Kansas IDeA Network of Biomedical Research Excellence annual symposium, \$100
2011	Student Travel Scholarship University of Kansas Medical Center, \$500
2010	Research Honors Palmer College of Chiropractic
2010	Virgil V. Strang Philosophy Award, finalist Palmer College of Chiropractic
2008	3 rd place, Nutrition Symposium Student Literature Review Contest Davenport, IA
2007	Dr. Frank Sartz Philosophical Recruitment Scholarship Palmer College of Chiropractic, \$2,000
2004 – 2006	Foreign Language Performance Award Missouri Southern State University, \$6,000

PROFESSIONAL ORGANIZATIONS AND LEADERSHIP

American Association for the Advancement of Science	Member, 2013 –
International Association for the Study of Pain	Member, 2014 – 2016

American Pain Society	Member, 2014 – 2016
Society for Neuroscience	Member, 2011 – 2016
Society for Neuroscience Kansas City Chapter	Member, 2015 – Co-President, 2014 – 2015 Secretary, 2013 Public Relations, 2012 Executive Committee, 2011
American Chiropractic Association	Member, 2010 – 2015
Biomedical Research Resources Organization	Policy and Advocacy Committee Co-chair 2014 – 2015
Student Research Forum Executive Committee	Chair of Fundraising committee, \$25,000 <i>budget</i> 2012 – 2013
International Chiropractic Association	2007 – 2010
American Chemical Society	Member, 2004 – 2007

PUBLICATIONS

1. **Pierce AN**, Eller-Smith OC, Wang R, Christianson JA. Voluntary wheel running attenuates urinary bladder hypersensitivity and dysfunction following neonatal maternal separation in female mice. *Manuscript under review and revision.*
2. Fuentes IM, Walker NK, **Pierce AN**, Holt BR, DiSilvestro ER, Christianson JA. Neonatal maternal separation increases susceptibility to experimental colitis and acute stress exposure in male mice. *IBRO Reports*: Dec 31(1):10-18. 2016
3. **Pierce AN**, Di Silvestro ER, Eller OC, Wang R, Ryals JM, Christianson JA. Urinary bladder hypersensitivity and dysfunction in female mice following early life and adult stress. *Brain Research*: May 15(1639):58-73. 2016
4. **Pierce AN**, Zhang Z, Fuentes IM, Wang R, Ryals JM, Christianson JA. Early-life vaginal irritation results in long-term vaginal and somatic hypersensitivity and increased hypothalamic-pituitary-adrenal axis output in female mice. *Pain*: Oct;156(10):2021-31. 2015

5. Fuentes IM, **Pierce AN**, Christianson JA. Assessment of perigenital sensitivity and prostatic mast cell activation in a mouse model of neonatal maternal separation. *J Vis Exp*: Aug 13;(102):e53181. 2015.
6. **Pierce AN**, Christianson JA. Stress and chronic pelvic pain. *Progress in molecular biology and translational science*: (131):509-535. 2015.
7. **Pierce AN**, Wang R, Ryals JM, Christianson JA. Vaginal hypersensitivity and hypothalamic–pituitary–adrenal axis dysfunction as a result of neonatal maternal separation in female mice. *Neuroscience*: Mar 28;(263):216-230. 2014.
8. Crisp CA, **Pierce AN**. Leg complaints that revealed small-cell carcinoma: A case study. *J Chiropr Med*: Sep 10(3):185-8. 2011
9. **Pierce AN**. *SOT: The One with the Blocks?* The Beacon. Davenport, IA. 2009
10. **Foster AN**, Ansari MS, Faruqi SR. High fructose corn syrup contributes to the obesity epidemic: A review of the published literature. *The Sixth Symposium on Nutrition and Chiropractic: proceedings*. Davenport, IA: Board of Nutrition, Palmer College of Chiropractic. 2009

ORAL PRESENTATIONS

1. *Neonatal maternal separation as a pre-clinical model for female chronic pelvic pain*. Dissertation defense, University of Kansas Medical Center. April 6, 2015. *Defense honors.
2. *Voluntary exercise can prevent or reverse urinary bladder hypersensitivity and dysfunction in maternally-separated female mice*. University of Kansas Medical Center Annual Student Research Forum. March 25, 2015. *Second place, oral presentation award.
3. *Neonatal maternal separation as a pre-clinical model for female chronic pelvic pain*. Self Graduate Fellowship Dissertation Research Series. University of Kansas-Lawrence. Jan 12, 2015.
4. *Urinary bladder hypersensitivity and neuroendocrine disruption following neonatal maternal separation in female mice*. University of Kansas Medical Center Annual Student Research Forum. April 2, 2014.
5. *Pelvic-organ specific increase in sensitivity and HPA axis dysfunction following neonatal maternal separation in female mice*. Anatomy and Cell Biology Departmental Seminar Series, University of Kansas Medical Center. March 6, 2014.
6. *Effects of childhood stress on your adult health: Linking toxic stress in childhood to chronic pain in adulthood*. Self Graduate Fellowship Public Lecture Series. University of Kansas-Lawrence. January 17, 2014.
7. *The painful consequences of early life stress: a rodent model of vulvodynia*. University of Kansas Medical Center Annual Student Research Forum. April 4, 2013. *First place, oral presentation award.
8. *Developmental pathways to amygdala-prefrontal function and internalizing symptoms in adolescence*. Neuroscience Journal Club. February 28, 2013.
9. *The painful consequences of early life stress*. Neuroscience Graduate Program seminar series. University of Kansas Medical Center teleconferenced to University of Kansas-Lawrence. February 12, 2013.
10. *Investigating the impact of early life adverse events on adult pain and behavior*. Neuroscience Graduate Program seminar series. University of Kansas Medical Center teleconferenced to University of Kansas-Lawrence. April 24, 2012.

11. *Enhanced vaginal sensitivity and anxiety in adult mice that underwent neonatal stress and/or irritation*. University of Kansas Medical Center Annual Student Research Forum. March 29, 2012.
12. *Early life adverse events and the development of chronic pelvic pain*. University of Kansas Medical Center Pain Interest Group. February 8, 2012.
13. *Development of pain: The sensory system, nociception, and early life environments and insults*. Self Graduate Fellowship Informational Lecture Series, University of Kansas-Lawrence. January 9, 2012.
14. *Adult behavior and pain after maternal separation of neonatal mice*. University of Kansas Medical Center, March 17, 2011
15. *Formalin testing in an acid-induced model of chronic pain*. University of Kansas Medical Center, December 9, 2010.
16. *High fructose corn syrup contributes to the obesity epidemic*. 6th Symposium on Nutrition and Chiropractic, Platform Presentation, March 21, 2008.

POSTER PRESENTATIONS

1. **Pierce AN**, Hassan, BR, Ryals, JM, Christianson JA. Vitamin D receptor expression is highly correlated with TRPV1 in sensory neurons innervating the distal colon. 2011 Midwest Regional Pain Interest Group Meeting, Chicago, IL, July 22-23, 2011.
2. **Pierce AN**, Hassan, BR, Ryals, JM, Christianson JA. Vitamin D receptor expression is highly correlated with TRPV1 in sensory neurons innervating the distal colon. Kansas City Chapter of the Society for Neuroscience annual retreat, University of Kansas Medical Center (KUMC), Kansas City, KS, November 9, 2011.
3. **Pierce AN**, Hassan, BR, Ryals, JM, Christianson JA. Vitamin D receptor expression is not highly correlated with TRPV1 in sensory neurons innervating the distal colon. Society for Neuroscience annual meeting, Washington, DC, November 12-16, 2011.
4. **Pierce AN**, Hassan BR, Ryals JM, Christianson JA. Enhanced vaginal sensitivity and behavioral measures of anxiety in a mouse model of vulvodynia. Self Graduate Fellowship Holiday Luncheon and Poster Session, University of Kansas (KU-L), Lawrence, KS, December 6, 2011.
5. **Pierce AN**, Hassan BR, Ryals JM, Christianson JA. Enhanced vaginal sensitivity and behavioral measures of anxiety in a mouse model of vulvodynia. Kansas Idea Network of Biomedical Research Excellence (K-INBRE) 2012 Symposium, Kansas City, MO, January 14-15, 2012. *Distinguished poster award.
6. **Pierce AN**, Hassan BR, Ryals JM, Christianson JA. Enhanced vaginal sensitivity and behavioral measures of anxiety in a mouse model of vulvodynia. Institute for Reproductive Health and Regenerative Medicine External Scientific Advisory Board Reception and Poster Session, April 19, 2012, KUMC, Kansas City, KS.
7. Walker NK, **Pierce AN**, Ryals JM, Wang R, Christianson JA. Impact of neonatal stress on visceral pain processing in adult male mice. KU 2012 Research Poster Symposium, KU-L, Lawrence, KS, July 27, 2012.
8. **Pierce AN**, Walker NK, Wang R, Christianson JA. Enhanced vaginal sensitivity and anxiety in adult mice that underwent neonatal stress and/or irritation. International Association for the Study of Pain 14th World Congress on Pain, Milan, Italy, August 27-31, 2012.
9. **Pierce AN**, Wang R, Ryals JM, Christianson JA. Enhanced vaginal sensitivity and anxiety in adult mice that underwent chronic neonatal stress. Society for Neuroscience annual meeting, New Orleans, LA, October 13-17, 2012.

10. **Pierce AN**, Wang R, Ryals JM, Christianson JA. Enhanced vaginal sensitivity and anxiety in adult mice that underwent chronic neonatal stress. Self Graduate Fellowship Holiday Luncheon and Poster Session, KU-L, Lawrence, KS, December 4, 2012.
11. **Pierce AN**, Wang R, Ryals JM, Christianson JA. Enhanced vaginal sensitivity and anxiety in adult mice that underwent chronic neonatal stress. Kansas City Chapter of the Society for Neuroscience annual retreat, KUMC, Kansas City, KS, December 11, 2012.
12. Christianson JA, **Pierce AN**, Wang R, Zhang Z, Ryals JM. Alterations in nociceptive processing following neonatal vaginal irritation and maternal separation. Kansas City Chapter of the Society for Neuroscience annual retreat, KUMC, Kansas City, KS, December 11, 2012.
13. Walker NK, **Pierce AN**, Holt BR, Ryals JM, Wang R, Christianson JA. Impact of neonatal stress on visceral pain processing in adult male mice. K-INBRE 2013 Symposium, Manhattan, KS, January 19-20, 2013.
14. **Pierce AN**, Wang R, Ryals JM, Christianson JA. Enhanced vaginal sensitivity and anxiety in adult mice that underwent chronic neonatal stress. K-INBRE 2013 Symposium, Manhattan, KS, January 19-20, 2013. *Distinguished poster award.
15. **Pierce AN**, Walker NK, Holt, BR, Wang R, Ryals JM, Christianson JA. Impact of early life and adult stress on anxiety behavior and pelvic organ sensitivity in male mice. Central Region IdeA Conference, Kansas City, MO, May 20-22, 2013
16. **Pierce AN**, Walker NK, Wang R, Ryals JM, Christianson JA. Pelvic organ-specific increase in sensitivity and dysregulation of the HPA axis following neonatal maternal separation in female mice. Kansas City Chapter of the Society for Neuroscience annual retreat, KUMC, Kansas City, KS, October 28, 2013.
17. **Pierce AN**, Walker NK, Wang R, Ryals JM, Christianson JA. Pelvic organ-specific increase in sensitivity and dysregulation of the HPA axis following neonatal maternal separation in female mice. Society for Neuroscience annual meeting, San Diego, CA, November 9-13, 2013.
18. **Pierce AN**, Walker NK, Wang R, Ryals JM, Christianson JA. Pelvic organ-specific increase in sensitivity and dysregulation of the HPA axis following neonatal maternal separation in female mice. Self Graduate Fellowship Holiday Luncheon and Poster Session, KU-L, Lawrence, KS, December 10, 2013.
19. **Pierce AN**, Wang R, Ryals JM, Christianson JA. Pelvic organ-specific increase in sensitivity and dysregulation of the HPA axis following neonatal maternal separation in female mice. K-INBRE 2014 Symposium, Kansas City, MO. *Distinguished poster award, January 17-18, 2014
20. Di Silvestro ER, Fuentes IM, **Pierce AN**, Christianson JA. Neonatal maternal separation increases urogenital sensitivity and function in male mice. K-INBRE 2014 Symposium, Kansas City, MO, January 17-18, 2014.
21. **Pierce AN**, Wang R, Ryals JM, Christianson JA. Pelvic organ-specific increase in sensitivity and dysregulation of the HPA axis following neonatal maternal separation in female mice. 5th Annual One Health Summit, Sporting Park, Kansas City, KS, March 5, 2014.
22. **Pierce AN**, Wang R, Ryals JM, Christianson JA. Pelvic organ-specific increase in sensitivity and dysregulation of the HPA axis following neonatal maternal separation in female mice. Women in Medicine and Science annual poster session, Kansas City, KS, August 21, 2014.
23. **Pierce AN**, Fuentes IM, Christianson JA. Exercise-induced attenuation of comorbid mood and urogenital disorders in mice that underwent neonatal maternal separation. International Association for the Study of Pain 15th World Congress on Pain, Buenos Aires, Argentina, October 7-11, 2014.
24. **Pierce AN**, Fuentes IM, Christianson JA. Exercise-induced attenuation of comorbid mood and urogenital disorders in mice that underwent neonatal maternal separation. Society for Neuroscience Kansas City Chapter annual retreat, Kansas City, KS, Oct 15, 2014.

25. **Pierce AN**, Wang R, Ryals JM, Christianson JA. Exercise ameliorates urinary bladder hypersensitivity and dysfunction in maternally-separated female mice. Society for Neuroscience annual meeting, Washington, DC, November 15-19, 2014.
26. **Pierce AN**, Wang R, Ryals JM, Christianson JA. Exercise ameliorates urinary bladder hypersensitivity and dysfunction in maternally-separated female mice. Self Graduate Fellowship Holiday Luncheon and Poster Session, KU-L, Lawrence, KS, December 9, 2014.
27. **Pierce AN**, Wang R, Ryals JM, Christianson JA. Voluntary wheel running reverses bladder hypersensitivity and dysfunction resulting from neonatal maternal separation in female mice. American Pain Society 34th Annual Scientific Meeting, Palm Springs, CA, May 13-16, 2015.
28. **Pierce AN**, Wang R, Ryals JM, Christianson JA. Voluntary wheel running reverses bladder hypersensitivity and dysfunction resulting from neonatal maternal separation in female mice. Women in Medicine and Science annual poster session, Kansas City, KS, August 20, 2015. *Best resident/post doc presentation award.

SERVICE

2017	Judge, 25 th Annual KCU Research Symposium Kansas City University of Medicine and Biosciences, Kansas City
2017	Volunteer, Dress to Impress Professional Clothing Giveaway Joplin Area Chamber of Commerce Missouri Southern State University
2016 –	Interviewer, College of Medicine admissions Kansas City University of Medicine and Biosciences
2015	Biomedical research funding advocate, Senator Jerry Moran (KS) Laboratory research facility tour, University of Kansas Medical Center
2014	Biomedical research funding advocate, District offices of Senator Jerry Moran (KS)
2014	Biomedical research funding advocate, District offices of Senator Pat Roberts (KS)
2014	Biomedical research funding advocate, United States Congress Society for Neuroscience Hill Day, Washington, DC
2011 – 2015	Annual Brain Discovery Fair, Volunteer

Society for Neuroscience Kansas City Chapter

2011 – 2015

Annual Kansas City Regional Brain Bee, Volunteer
Society for Neuroscience Kansas City Chapter

2009

Humanitarian medical service
Vanuatu, Fiji