

Curriculum Vitae

Kyle M. Baumbauer

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Educational and Professional History

Education

- 2005 Ph.D., Experimental Psychology, Kent State University
Dissertation title: *The role of neurokinin 1 and neurokinin 2 receptors in spinally mediated instrumental learning.*
- 2002 M.A., Experimental Psychology, Kent State University
Thesis title: *Functional significance of a shock-induced antinociceptive response in spinal rats.*
- 2000 B.A., Sociology, University of Central Florida
- 1999 B.S., Psychology, University of Central Florida

Academic Positions

- 2014- Assistant Professor, School of Nursing, University of Connecticut
Assistant Professor, Department of Neuroscience, UConn Health
Member, Center for Advancement in Managing Pain, University of Connecticut
Member, Institute for Systems Genomics, University of Connecticut
Affiliate, Institute for Collaboration on Health, Intervention, and Policy, University of Connecticut
- 2013-2014 T32 Postdoctoral Scholar, Department of Neurobiology, University of Pittsburgh School of Medicine
- 2011-2013 Postdoctoral Associate, Department of Neurobiology, University of Pittsburgh School of Medicine
- 2008-2011 Assistant Research Scientist, Department of Psychology, Behavioral and Cellular Neuroscience Program, Texas A&M University
- 2005-2008 Postdoctoral Research Associate, Department of Psychology, Behavioral and Cellular Neuroscience Program, Texas A&M University
- 2000-2005 Graduate Research Assistant/Teaching Fellow, Kent State University
- 1999 Data Collection Intern, University of South Florida/Florida Mental Health Institute, Schizophrenia Care and Assessment Program

Honors and Awards

Rita Allen Foundation Award in Pain
UConn School of Nursing Mary Lawrence Research Development Award
T32 Postdoctoral Fellowship “Mechanisms and Clinical Presentation of Pain” NS073548
International Association for the Study of Pain (IASP) Travel Grant
Student Led Award for Teaching Excellence (SLATE), Texas A&M University
American Psychological Association Committee on Animal Research & Ethics (CARE) Imprinting-
Interdivisional Mentoring Fellowship Award
Recovery of Function Travel Award, Texas A&M University
Faculty of Neuroscience Travel Award, Texas A&M University
American Psychological Association Dissertation Award
ONTAP Teaching Fellow, Kent State University
Kent State University Graduate Student Senate Research Grant Award, Dissertation
Applied Psychology Center Graduate Student Paper Award, Kent State University
Kent State University Graduate Student Senate Research Grant Award, Master’s Thesis
Applied Psychology Center Travel Award, Kent State University
Chappie James Most Promising Teacher Scholar
Florida Bright Futures Scholar

Grants and Funding

Title: *Pain Sensitivity in Low Back Pain, NINR (R01)*

Sponsor: NIH/NINR

PI: Angel R. Starkweather

Role: Co-I

Direct Costs: \$431,518

Period: 9/17/15-6/30/16

Title: *University of Connecticut (UConn) Center for the Advancement of Managing Pain (CAMP) NIH Center of Excellence in Pain Education (CoEPE)*

Sponsor: NIH/NIDA

PI: Renee C. Manworren

Role: Co-I

Direct Costs: \$914,350

Period: 8/1/15-7/30/20

Title: *The Functional Consequences of SCI on Cutaneous Nociceptors (R03)*

Sponsor: NIH/NINDS

Role: PI

Direct Costs: \$136,606

Period: 2/1/16-1/31/18

Title: *Developing a Mouse Model for Symptomatic Apical Periodontitis*

Sponsor: UConn InCHIP-School of Dental Medicine Seed Grant in Dental Health and Behavior

Role: Co-PI

Direct Costs: \$25,000

Period: 7/1/16-6/30/17

Title: *Analgesic and Anti-Inflammatory Effects of Dimethyl Sulfoxide in Symptomatic Apical Periodontitis in Mice*

Sponsor: UConn Research Excellence Program (REP) Convergence Grant

Role: Co-PI

Direct Costs: \$50,000

Period: 7/1/16-6/30/17

Title: *Targeting ASIC3 for disruption of nociceptor sensitization following spinal cord injury*

Sponsor: Rita Allen Foundation/American Pain Society

Role: PI

Direct Costs: \$150,000

Period: 7/1/17-6/30/20

Title: *Targeting ASIC3 to disrupt nociceptor sensitization following spinal cord injury (R21)*

Sponsor: NIH/NINDS

Role: PI

Direct Costs: \$275,000

Status: Under review

Title: *Tissue Inhibitor of Metalloproteinases 1 (TIMP-1) Regulation of Pain (R01)*

Sponsor: NIH/NINDS

Role: PI

Direct Costs: \$1,250,000

Status: Under revision

Title: *Optogenetic Targeting of Primary Afferent Populations to Alleviate SCI-induced Pain (R01)*

Sponsor: NIH/NINDS

Role: PI

Direct Costs: \$1,250,000

Status: Under revision

Title: *Identification of nociceptive afferents that contribute to SCI-induced pain*

Sponsor: Craig H. Neilsen Foundation

Role: PI

Direct Costs: \$300,000

Status: Under revision

Memberships

AAAS

Society for Neuroscience

International Association for the Study of Pain (IASP)

American Pain Society (APS)

American Psychological Association

Pavlovian Society

Teaching

Teaching at Kent State University

PSYC 31043 Basic Learning Processes

PSYC 41363 Biopsychology

PSYC 41495 Special Topics: Computers in Psychology

PSYC 11762 General Psychology
PSYC 21621 Quantitative Methods in Psychology I
PSYC 41990 Writing in Psychology

Undergraduate Student Supervision

Bonnie Marras (2001-2002)
Heather Vicich (2002-2003)
Jill France (2002-2004)
Kevin Hoy (2002-2005)
Athena Abood (2004-2005)

Teaching at Texas A&M University

PSYC 107 Introductory Psychology
PSYC 335 Physiological Psychology

Undergraduate Student Supervision

Abbey Hughes (2007- 2009)
Co-directed Undergraduate Research Scholars Thesis project.
Christine Elkins (2008)
Amber Franklin (2009)
Martin Meng (2010)
Merlyn Jacobs (2010)
Lexie Crommett (2010)
Dustin Lompra (2010-2011)

Teaching at the University of Connecticut

NURS 5060 Advanced Pathophysiology: Concepts for Advanced Nursing Practice Across the
Lifespan
NURS 5101 Fundamental Mechanisms of Acute and Chronic Pain

Lectures at UConn Health

Glial Neurobiology (Pain)
Systems Neuroscience (Pain)
Organ Systems 1 (Spinal Cord)

Undergraduate Student Supervision

Irena Mikhalyuk (2015-2016)
Sharmeen Jaffry (2015-2016)

Undergraduate Honors Student Supervision

Nathan Kozlowski (2014-)
Michelle Rekofsky (2014-)
Anthony Resca (2014-)
Madeline Farrell (2015-)
Shabaz Khan (2015-)

Graduate Student Supervision

Thomas Julian (2014-2015)
Timothy Kiprono (2015-2016)
Brittany Knight (2015-)
Jessica Yasko (2015-)

Scholarship

Grant Reviewing

Medical Research Council, UK

Journal Reviewing

American Journal of Physiology – Cell Physiology

Behavioural Brain Research

Brain Research

Growth Factors

International Journal of Nanomedicine

Journal of Neurophysiology

Journal of Pain

Journal of Pain Research

Neuropeptides

Neuroscience Letters

PLoS One

Publications

Baumbauer, K.M., Anderson, M.J., & Riccio, D.C. (2002). State dependent retention: The relevance of internal context. In R.W. Flint, Jr. (Ed.), *Forget it? Sources, theories, & mechanisms of alterations in mnemonic function* (pp. 39-50). North Chelmsford, MA: Courier Custom Publishing, Inc.

Baumbauer, K.M., Young, E.E., Hoy, K.C., Jr., France, J.L., & Joynes, R.L. (2006). Intrathecal infusions of anisomycin impact the learning deficit but not the learning effect observed in spinal rats that have received instrumental training. *Behavioural Brain Research*, *173*, 299-309.

Baumbauer, K.M., Young, E.E., Hoy, K.C., Jr., Abood, A., & Joynes, R.L. (2007). Administration of a Ca²⁺/calmodulin-dependent protein kinase II (CaMKII) inhibitor reverses the noncontingent shock learning deficit observed in spinal rats. *Behavioral Neuroscience*, *121*, 570-578.

Baumbauer, K.M., Young, E.E., Hoy, K.C., Jr., & Joynes, R.L. (2007). Intrathecal administration of neurokinin 1 and neurokinin 2 receptor antagonists undermines the savings effect in spinal rats trained in an instrumental learning paradigm. *Behavioral Neuroscience*, *121*, 186-199.

Baumbauer, K.M., Young, E.E., Hoy, K.C., Jr., & Joynes, R.L. (2007). Neurokinin receptors modulate the impact of uncontrollable stimulation on adaptive spinal plasticity. *Behavioral Neuroscience*, *121*, 1082-1094.

Gómez-Pinilla, F., Huie, J. R., Ying, Z., Ferguson, A.R., Crown, E.D., Baumbauer, K.M., Edgerton, V.R., & Grau, J.W. (2007). BDNF and Learning: Evidence that instrumental training promotes learning within the spinal cord by up-regulating BDNF expression. *Neuroscience*, *148*, 893-906.

Young, E.E., Baumbauer, K.M., Elliott, A.E., & Joynes, R.L. (2007). Lipopolysaccharide induces a spinal learning deficit that is blocked by IL-1 receptor antagonism. *Brain, Behavior, & Immunity*, *21*, 748-757.

***Highlighted in the 8/07 issue of BBI and accompanied by an invited commentary by Dr. Terence Deak (SUNY-Binghamton).*

- Young, E.E., Baumbauer, K.M., Elliot, A., & Joynes, R.L. (2007). Neonatal hind-paw injury disrupts acquisition of an instrumental response in adult spinal rats. *Behavioral Neuroscience*, *121*, 1095-1100.
- Young, E.E., Baumbauer, K.M., Hillyer, J.E., & Joynes, R.L. (2007). Local anesthetic treatment significantly attenuates acute pain responding but does not prevent the neonatal injury-induced reduction in adult spinal behavioral plasticity. *Behavioral Neuroscience*, *121*, 1073-1081.
- Young, E.E., Baumbauer, K.M., Hillyer, J.E., Patterson, A.M., Hoy, K.C., Jr., Mintz, E.M., & Joynes, R.L. (2008). The neonatal injury-induced spinal learning deficit in adult rats: Central mechanisms. *Behavioral Neuroscience*, *122*, 589-600.
- Baumbauer, K.M., Hoy, K.C., Jr., Huie, J.R., Hughes, A.J., Woller, S.A., Puga, D.A., Setlow, B., & Grau, J.W. (2008). Timing in the Absence of Supraspinal Input I: Variable, but not Fixed, Spaced Stimulation of the Sciatic Nerve Undermines Spinally-Mediated Instrumental Learning. *Neuroscience*, *155*, 1030-1047.
***Evaluated by Dr. Kent Berridge for Faculty of 1000 Biology. Kent Berridge: Faculty of 1000 Biology, 28 Oct 2008 www.f1000biology.com/article/id/1123485/evaluation*
- Baumbauer, K.M., Huie, J.R., Hughes, A.J., & Grau, J.W. (2009). Timing in the Absence of Supraspinal Input II: Regular spaced stimulation induces a lasting alteration in spinal uncination that depends on the NMDA receptor, protein synthesis, and BDNF. *Journal of Neuroscience*, *29*, 14383-14393.
***This Week in the Journal featured article.*
<http://www.jneurosci.org/cgi/content/full/29/46/i>
- Baumbauer, K.M., Young, E.E., & Joynes, R.L. (2009). Pain and learning in a spinal system: Contradictory outcomes from Common Origins. *Brain Research Reviews*, *61*, 124-143.
***Featured on MDLinx.com, 10 Oct 2009 <http://www.mdlinx.com/internalmdl原因/news-article.cfm/2916554>*
- Vichaya, E.G., Baumbauer, K.M., Carcoba, L.M., Grau, J.W., & Meagher, M.W. (2009). Spinal glia modulate both adaptive and physiological processes. *Brain, Behavior, & Immunity*, *23*, 969-976.
- Baumbauer, K.M., & Grau, J.W. (2011). Timing in the Absence of Supraspinal Input III: Regularly Spaced Cutaneous Stimulation Prevents and Reverses the Spinal Learning Deficit Produced by Peripheral Inflammation. *Behavioral Neuroscience*, *125*, 37-45.
- Baumbauer, K.M., Lee, K.H., Puga, D.A., Hughes, A.J., & Grau, J.W. (2012). Temporal regularity determines the impact of electrical stimulation on tactile reactivity and response to capsaicin in spinally transected rats. *Neuroscience*, *227*, 119-133.
- Ferguson, A.R., Huie, J.R., Crown, E.D., Baumbauer, K.M., Hook, M.A., Garraway, S.M., Lee, K.H., Hoy, K.C., & Grau, J.W. (2012). Maladaptive spinal plasticity opposes spinal learning and recovery in spinal cord injury. *Frontiers in Integrative Physiology*. doi: 10.3389/fphys.2012.00399
- Grau, J.W., Huie, J.R., Garraway, S.M., Hook, M.A., Crown, E.D., Baumbauer, K.M., Lee, K.H., Hoy, K.C., & Ferguson, A.R. (2012). Impact of behavioral control on the processing of nociceptive stimulation within the dorsal horn. *Frontiers in Integrative Physiology*, *3*, 1-21.
- Huie, J.R., Garraway, S.M., Baumbauer, K.M., Hoy, K.C., Jr., Beas, B.S., Montgomery, K.S., Bizon, J.L., & Grau, J.W. (2012). Brain derived neurotrophic factor (BDNF) promotes adaptive plasticity within the spinal cord and mediates the beneficial effects of controllable stimulation. *Neuroscience*, *200*, 74-90.

- Huie, J.R., Baumbauer, K.M., Lee, K.H., Beattie, M.S., Bresnahan, J.C., Ferguson, A.R., & Grau, J.W. (2012). Glial tumor necrosis factor alpha (TNF α) generates metaplastic inhibition of spinal learning. *PLoS ONE*, 7, e39751. doi:10.1371/journal.pone.0039751.
- Fava, E., Hull, R., Baumbauer, K.M., & Bortfeld, H. (2014). Hemodynamic Responses to Speech and Music in Preverbal Infants. *Child Neuropsychology*, 20, 430-448.
- Grau, J.W., Huie, J.R., Lee, K.H., Hoy, K.C., Huang, Y.-J., Turtle, J.D., Strain, M.M., Baumbauer, K.M., Miranda, R.M., Hook, M.A., Ferguson, A.R., & Garraway, S.M. (2014). Metaplasticity and behavior: How training and inflammation affect plastic potential within the spinal cord and recovery after injury. *Frontiers in Neural Circuits*. 8:100. doi: 10.3389/fncir.2014.00100.
- Baumbauer, K.M.[#], Deberry, J.J.[#], Adelman, P.C., Miller, R.H., Koerber, H.R., Davis, B.M., & Albers, K.M. (2015). Keratinocytes can initiate cutaneous sensations. *ELife*. DOI: 10.7554/eLife.09674
 **Editor's Choice for paper of the week on the American Pain Society's Pain Research Forum
<http://www.painresearchforum.org/papers/58068-keratinocytes-can-modulate-and-directly-initiate-nociceptive-responses>
- [#]Contributed equally to this work
- Lee, K.H., Turtle, J.D., Huang, Y.-J., Strain, M.M., Baumbauer, K.M., & Grau, J.W. (2015). Learning about time within the spinal cord: When does regularity matter and what is encoded? *Frontiers in Behavioral Neuroscience*. DOI: 10.3389/fnbeh.2015.00274.
- Baumbauer, K.M., Young, E.E., Starkweather, A.R., Guite, J.W., Russell, B.S., & Manworren, R.C. (2016). Managing Chronic Pain in Special Populations with Emphasis on Pediatric, Geriatric, and Drug Abuser Populations. *Medical Clinics of North America*, 100, 183-197. DOI: 10.1016/j.mcna.2015.08.013
- Hachisuka, J., Baumbauer, K.M., Omori, Y., Snyder, L.M., Koerber, H.R., & Ross, S.E. (2016). Semi-intact ex vivo approach to investigate spinal somatosensory circuits. *ELife*. DOI: doi: 10.7554/eLife.22866.
- Molliver, D.C., Rau, K.K., Jankowski, M.P., Soneji, D.J., Baumbauer, K.M., & Koerber, H.R. (2016). Deletion of the ATP/UTP receptor P2Y2 alters mechanical and thermal response properties in polymodal cutaneous afferents. *Neuroscience*. doi: 10.1016/j.neuroscience.2016.06.054
- Baumbauer, K.M., Turtle, J., Hughes, A.J., & Grau, J.W. (2017). Fixed spaced stimulation restores adaptive plasticity within the spinal cord: Identifying the eliciting conditions. *Physiology & Behavior*, 174, 1-9. doi: 10.1016/j.physbeh.2017.02.028
- Jankowski, M.P.[#], Baumbauer, K.M.[#], Wang, T., Albers, K.M., Davis, B.M., and Koerber, H.R. (2017). Cutaneous neurturin overexpression alters mechanical, thermal, and cold responding in physiologically identified primary afferents. *Journal of Neurophysiology*, 117, 1258-1265. doi: 10.1152/jn.00731.2016
- [#]Contributed equally to this work
- Young, E.E., Baumbauer, K.M., Kelly, D., Shim, I., Starkweather, A., & Lyon, D.E. (2017). Variations in *COMT* and *NTRK2* influence symptom burden in women undergoing breast cancer treatment. *Biological Research for Nursing*, 19, 318-328. doi: 10.1177/1099800417692877
- Young, E.E., D'Agata, A., Vittner, D., & Baumbauer, K.M. (2017). Neurobiological consequences of early painful experience: Basic science findings and implications for evidence-based practice. *Journal of Perinatal and Neonatal Nursing*, 31, 178-185. doi: 10.1097/JPN.0000000000000258

- Perry, M., Baumbauer, K.M., Young, E.E., & Starkweather, A.R. (under review). Factors leading to persistent postsurgical pain in adolescents undergoing spinal fusion: A systematic review. *Journal of Pediatric Nursing*.
- Puga, D.A., Garraway, S.A., Baumbauer, K.M., Hook, M.A., Malik, J., & Grau, J.W. (under review). Continuous shock protects spinal plasticity in the isolated rat spinal cord. *Frontiers in Neuroscience*.

Manuscripts in Preparation

- Baumbauer, K.M., Adelman, P.C., Jankowski, M.P., & Koerber, H.R. (in prep). The role of GFR α -1 in the sensitization of cutaneous afferents following saphenous nerve injury.
- Baumbauer, K.M., Huie, J.R., Hughes, A.J., & Grau, J.W. (in prep). Exposure to Fixed Spaced Stimulation Enhances Spinally-Mediated Instrumental Learning.
- Starkweather, A.R., Julian, T.J., Sturgill, J. Young, E.E., Baumbauer, K.M., Wijesinghe, D.S. (in prep). Lipidomic signature of acute pain.
- Baumbauer, K.M., Young, E.E., Soneji, D.J., Adelman, P.C., Ekmann, K.M., Anderson, C.E., & Koerber, H.R. (in prep). Gene expression profiling in comprehensively phenotyped cutaneous primary afferents.

Invited Talks

- Baumbauer, K.M. (2009, October). Recovery from Spinal Cord Injury: A Learned Perspective. Rowan University, Psychology Department. Glassboro, N.J.
- Baumbauer, K.M. (2009, December). Recovery from Spinal Cord Injury: A Learned Perspective. Baylor University, Psychology Department. Waco, T.X.
- Baumbauer, K.M. (2011, April). A Learning Theorist's Perspective on Recovery Following Spinal Cord Injury. Mount Olive College, Psychology Department. Mount Olive, N.C.
- Baumbauer, K.M. (2014, October). Examining Function of Cutaneous Neurons in Normal and Injured States. Susquehanna University, Psychology Department. Selinsgrove, P.A.
- Baumbauer, K.M. (2015, January). The Simple Fact About Pain is it's Not So Simple. University of Connecticut Health Center, Clinical Research Center. Farmington, C.T.
- Baumbauer, K.M. (2015, February). The Trouble with Pain Treatment. Lawrence and Memorial Hospital, New London, C.T.

Discussion Panels

- Baumbauer, K.M., Parks, C., & Young, E.E. (2016). *Of Agony and Relief: Understanding and Treating Pain*. UConn Science Salon.
- Brown, S., DeFazio, A, Holle, L.M. (2016). *Medical Marijuana: Out of the Stone Age and into the Medicine Cabinet*. UConn Science Salon (Moderator).

Abstracts

- Baumbauer, K. M., Vicich, H., Marras, B., Joynes, R. L. (2002). Functional significance of stimulus generalization during habituation of an antinociception response in spinal rats. Program No. 156.2. *2002 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience, 2002. CD-ROM.

- Baumbauer, K.M., Hoy, K., France, J., Young, E.E., & Joynes, R.L. (2003). The impact of intrathecal protein synthesis inhibition on an acquired flexion response in spinal rats. Program No. 707.8. *2003 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience, 2003. CD-ROM.
- Baumbauer, K.M., Young, E.E., Hoy, K., France, J., & Joynes, R.L. (2003). The role of protein synthesis inhibition in the acquired flexion response in spinal rats. Poster presented at the annual meeting of the Pavlovian Society, September, Bloomington.
- Young, E.E., Baumbauer, K.M., Elliot, A., & Joynes, R.L. (2003). NOS inhibitor does not prevent lipopolysaccharide (LPS) induced disruption of instrumental learning in spinal rats. Program No. 707.9. *2003 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience, 2003. CD-ROM.
- Young, E.E., Baumbauer, K.M., Elliot, A., & Joynes, R.L. (2003). The impact of neonatal injury on spinally mediated instrumental learning in adult rats. Poster presented at the annual meeting of the Pavlovian Society, September, Bloomington.
- Baumbauer, K.M., Hoy, K., France, J., Young, E.E., & Joynes, R.L. (2004). The impact of intrathecal protein synthesis inhibition on an acquired flexion response in spinal rats. Poster presented at the Biomedical Research Conference, April, Kent.
- Baumbauer, K.M., Young, E.E., Hoy, K.C., & Joynes, R.L. (2004). The role of calcium/calmodulin-dependent kinase II (CAMKII) in the maintenance of the learning deficit observed in spinal rats. Program No. 418.6. *2004 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience, 2004. CD-ROM.
- Baumbauer, K.M., Young, E.E., & Joynes, R.L. (2004). Intrathecal injections of the neurokinin agonists substance P methyl ester and neurokinin A induce a learning deficit in spinal rats. Poster presented at the annual meeting of the Pavlovian Society, September, Baltimore.
- Brown, J.E., Young, E.E., Baumbauer, K.M., & Joynes, R.L. (2004). The impact of supraspinal systems on the development of spinal plasticity in rats after neonatal hindpaw injury. Program No. 172.9. *2004 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience, 2004. CD-ROM.
- Joynes, R.L., Baumbauer, K.M., Young, E.E., Hoy, K.C., & Brown, J.E. (2004). Learning in the spinal cord: Mechanisms and application. Paper presented at the annual Tri-State Conference, May, Kent.
- Young, E.E., Baumbauer, K.M., Elliot, A., & Joynes, R.L. (2004). NOS inhibitor does not prevent lipopolysaccharide (LPS) induced disruption of instrumental learning in spinal rats. Poster presented at the Biomedical Research Conference, April, Kent.
- Young, E.E., Baumbauer, K.M., & Joynes, R.L. (2004). The role of nitric oxide in the learning deficit observed after noncontingent shock in adult spinal rats. Program No. 418.7. *2004 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience, 2004. CD-ROM.
- Young, E.E., Baumbauer, K.M., & Joynes, R.L. (2004). The neonatal injury induced learning deficit does not transfer to the contralateral hindlimb. Poster presented at the annual meeting of the Pavlovian Society, September, Baltimore.
- Young, E.E., Brown, J.E., Baumbauer, K.M., Elliot, A., & Joynes, R.L. (2004). The impact of neonatal injury on spinally mediated instrumental learning and locomotion recovery in adult rats. Poster presented at the Biomedical Research Conference, April, Kent.

- Baumbauer, K.M., Hoy, K.C., Young, E.E., & Joynes, R.L. (2005). Intrathecal Administration of the NK1 Receptor Antagonist L-703,606 Undermines the Savings Effect and Reverses the Learning Deficit Observed in Spinally Mediated Instrumental Learning. Program No. 396.20. *2005 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience, 2005. CD-ROM.
- Baumbauer, K.M., Young, E.E., Hoy, K.C., & Joynes, R.L. (2005). The role of neurokinin receptors in spinally mediated instrumental learning. Paper presented at the annual meeting of the Midwestern Psychological Association, May, Chicago.
- Hoy, K.C., Baumbauer, K.M., Young, E.E., Riccio, D.C., & Joynes, R.L. (2005). Direct Stimulation of NK1 and NK2 Receptors in Spinal Rats Results in a Behavioral Deficit that may due to Saturation of Plasticity in Spinal Neurons. Program No. 396.8. *2005 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience, 2005. CD-ROM.
- Young, E.E., Baumbauer, K.M., Hillyer, J.E., & Joynes, R.L. (2005). Lidocaine administration does not prevent the neonatal injury-induced deficit in adult spinal learning. Program No. 396.7. *2005 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience, 2005. CD-ROM.
- Young, E.E., Baumbauer, K.M., Hillyer, J.E., & Joynes, R.L. (2005). The Neonatal Injury-Induced Learning Deficit in Adult Spinal Rats. Paper presented at the annual meeting of the Midwestern Psychological Association, May, Chicago.
- Baumbauer, K.M., Hoy, K.C., Setlow, B., & Grau, J.W. (2006). Electrical stimulation of the sciatic nerve results in a learning deficit in spinal rats. *2006 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience.
- Good, E., Baumbauer, K.M., Carcoba, L.M., Meagher, M.W., & Grau, J.W. (2006). Administration of fluorocitrate blocks the acquisition of an instrumental response in spinal rats. *2006 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience.
- Washburn, S.N., Prentice, T.W., Balden, R.L., Hudson, K.L., Baumbauer, K.M., Hook, M.A., Miranda, R.C., & Grau, J.W. (2006). Uncontrollable shock disrupts recovery of function after contusion injury: Role of corticosterone. *2006 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience.
- Baumbauer, K.M., Hoy, K.C., Jr, Huie, J.R., Puga, D.A., & Grau, J.W. (2007). Uncontrollable stimulation induces a learning deficit in spinal rats that is dependent on the length of training and pattern of stimulus delivery. Poster presented at the annual meeting of the Pavlovian Society, October, Austin.
- Baumbauer, K.M., Hoy, K.C., Jr, Huie, J.R., Puga, D.A., Setlow, B., & Grau, J.W. (2007). Nociceptive electrical stimulation of the sciatic nerve results in a learning deficit in rats with complete spinal transections. *2007 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience.
- Good-Vichaya, E., Baumbauer, K.M., Carcoba, L.M., Grau, J.W., & Meagher, M.W. (2007). The impact of glial cell inhibition on spinal instrumental learning. Poster presented at the annual Psvchoneuroimmunology Research Society meeting, May, Arcachon, France.
- Hoy, K.C., Huie, J.R., Baumbauer, K.M., & Grau, J.W. (2007). Administration of the AMPA-Receptor agonist AMPA disrupts instrumental learning in spinally transected rats. *2007 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience.
- Vichaya, E.G., Baumbauer, K.M., Grau, J.W., & Meagher, M.W. (2007). The effect of minocycline on a rat model of spinal instrumental learning. *2007 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience.

- Washburn, S.N., Prentice, T.W., Baumbauer, K.M., Puga, D.A., Steelman, A.J., Welsh, C.J.R., Meagher, M.W., Miranda, R.C., & Grau, J.W. (2007). Uncontrollable shock disrupts recovery of function after contusion injury in rats: Role of pro-inflammatory cytokines. *2007 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience.
- Baumbauer, K.M., Hughes, A.J., Huie, J.R., Hoy, K.C., Jr, & Grau, J.W. (2008). Evidence of timing in the absence of supraspinal input: Fixed space stimulation protects against the detrimental effects of uncontrollable tailshock. *2008 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience.
- Hughes, A.J., Baumbauer, K.M., & Grau, J.W. (2008). Evidence of timing in the absence of supraspinal input: Fixed space stimulation engages a form of NMDA-mediated spinal plasticity. *2008 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience.
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- Baumbauer, K.M., Hughes, A.J., Huie, J.R., Hoy, K.C., Jr, & Grau, J.W. (2008). Evidence of timing in the absence of supraspinal input: Fixed space stimulation protects against the detrimental effects of uncontrollable tailshock. Poster presented at the annual Mission Connect Symposium, December, Houston.
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- Baumbauer, K.M., Deberry, J.J., Davis, B.M., & Koerber, H.R. (2013). Firing properties of cutaneous nociceptors in response to natural and optical stimulation in ChR2 transgenic mice. 2013 Neuroscience Meeting Planner, San Diego, CA: Society for Neuroscience, 2013. Online.
- Deberry, J.J., Baumbauer, K.M., Koerber, H.R., Davis, B.M. (2013). Anatomical and *ex vivo* functional characterization of ChR2-expressing cutaneous primary afferent neurons. Paper presented at the annual American Pain Society meeting, April, New Orleans, LA.
- Deberry, J.J., Koerber, H.R., Albers, K.M., Baumbauer, K.M., & Davis, B.M. (2013). Channelrhodopsin-activation of bladder afferents is sufficient to initiate the visceromotor reflex. 2013 Neuroscience Meeting Planner, San Diego, CA: Society for Neuroscience, 2013. Online.
- Adelman, P.C., Baumbauer, K.M., Deberry, J.J., Miller, R.H., Davis, B.M., Albers, K.M., & Koerber, H.R. (2014). Differential activation of cutaneous sensory neurons by optical activation of keratinocytes. Poster presented at the annual meeting of the Society for Neuroscience, Washington, D.C.

- Baumbauer, K.M., Soneji, D.J., Ekmann, K.M., & H.R. Koerber. (2014). Population specific changes in gene expression following cutaneous inflammation or nerve injury. Poster presented at the annual meeting of the American Pain Society, April, Tampa, FL.
- Baumbauer, K.M., Deberry, J.J., Koerber, H.R., Albers, K.M., & Davis, B.M. (2014). Keratinocytes can initiate cutaneous sensations. Poster presented at the annual meeting of the International Association for the Study of Pain, Buenos Aires, Argentina.
- Baumbauer, K.M., Deberry, J.J., Adelman, P.C., Miller, R.H., Davis, B.M., Albers, K.M., & Koerber, H.R. (2014). Optical stimulation of keratinocytes activates cutaneous nociceptors. Paper presented at the annual meeting of the Society for Neuroscience, Washington, D.C.
- Baumbauer, K.M., Young, E.E., & Koerber H.R. (2014). Population specific changes in cutaneous neuron gene expression following inflammation or injury. Paper presented at the annual meeting for the Council for the Advancement of Nursing Science, Washington, D.C.
- Hachisuka, J., Baumbauer, K.M., Snyder, L.M., Koerber, H.R., & Ross, S.E. (2014). Optogenetic dissection of pain and itch circuitry in the spinal dorsal horn. Poster presented at the annual meeting of the Society for Neuroscience, Washington, D.C.
- Lee, K.H., Baumbauer, K.M., Huang, Y.-J., & Grau, J.W. (2014). Brain-derived neurotrophic factor reduces inflammation-induced allodynia in spinally transected rats. Poster presented at the annual meeting of the Society for Neuroscience, Washington, D.C.
- Miller, R.H., Baumbauer, K.M., Adelman, P.C., Koerber, H.R., Davis, B.M., & Albers, K.M. (2014). Optogenetic control of neuromodulator release from keratinocytes. Poster presented at the annual meeting of the Society for Neuroscience, Washington, D.C.
- Adelman, P.C., Baumbauer, K.M., Friedman, R.L., Lee, K.H., & Koerber, H.R. (2015). Single Cell qPCR analysis of expression changes following nerve injury and regeneration. Poster presented at the annual meeting of the Society for Neuroscience, Chicago, IL.
- Dorsey, S., Perry, M., Young, E., Baumbauer, K., & Starkweather, A. (2016). Changes in cell cycle activation underlie trkB.T1-dependent analgesia and locomotor recovery following spinal cord injury. Paper presented at the annual meeting for the Council for the Advancement of Nursing Science, Washington D.C.
- Knight, B.E., Ritzel, R., Jellison, E., Young, E.Y., Crocker, S., & Baumbauer, K.M. (2016). Identification of a heterogeneous population of satellite glial cells in the mouse dorsal root ganglion. Poster presented at the annual meeting of the American Pain Society, Austin, TX.
- Knight, B.E., Ritzel, R., Jellison, E., Young, E.Y., & Baumbauer, K.M. (2016). The effect of cutaneous inflammation on subsets of satellite glial cells in mouse dorsal root ganglion. Poster presented at the annual meeting of the Society for Neuroscience, San Diego, CA.
- Kuyinu, E.L., Khanal, M., Gohil, S., Knight, B.E., Baumbauer, K., Lo, W.H., Walker, J., Laurencin, C.T., & Nair, L.S. (2016). *Novel Injectable Analgesic Delivery System for Chronic Pain Management*. Presented at the annual meeting of the National Medical Association, Los Angeles, CA.
- Starkweather, A. R., Young, E., Perry, M., Julian, T., Baumbauer, K., Dorsey, S., & Lyon, D. E. (2016). Peripheral and central sensitivity as a determinant of outcomes in low back pain. Paper presented at the annual meeting for the Council for the Advancement of Nursing Science, Washington D.C.
- Yasko, J.R., Kiprono, T., Knight, B.E., Willis, C., Nicaise, A., Young, E.E., Crocker, S., & Baumbauer, K.M. (2016). Tissue inhibitor of matrix metalloproteinase-1 (TIMP-1) regulates mechanical sensitivity following cutaneous inflammation. Poster presented at the annual meeting of the American Pain Society, Austin, TX.

Yasko, J.R., Young, E.E., & Baumbauer, K.M. (2016). Alterations in afferent pathway signaling and neurogenic inflammation following spinal cord injury. Poster presented at the annual meeting of the Society for Neuroscience, San Diego, CA.

Service

School of Nursing, University of Connecticut

Grade Appeal Committee (2015-)

University-level, University of Connecticut

University Interdisciplinary Courses Committee (2015-)

University-level, UConn Health

Institutional Animal Care and Use Committee (2016-)

Department of Psychology, Kent State University

Graduate student member, Experimental Training Committee (2001-2002)

President, Graduate Association of Students in Psychology (2002-2004)

Kent State University

Graduate Student Senate (2002-2004)

Graduate student member, Strategic Planning Committee (2004)

Graduate student member, Orienting New Teaching Assistants Program (ONTAP)

Other Professional Service

Beta Tester, SPSS Statistical Software version 17 (Macintosh)