**Curriculum Vitae**

**Eva Claudia Bach**

**Phone: (208) 757-0622**

**ebach@wakehealth­.edu**

**321 Hancock Drive**

**Kernersville, NC 27284**

**PROFESSIONAL EXPERIENCE**

**September 2018- Present**

Postdoctoral Fellow

Postdoctoral Scholar

Wake Forest School of Medicine

 *Department of Physiology and Pharmacology*

 *Laboratory of Jeff Weiner*

**September 2016- August 2018**

Postdoctoral Scholar

Wake Forest School of Medicine

 *Department of Neurobiology and Anatomy*

 *Laboratory of Barry Stein and Benjamin Rowland*

**November 2013- August 2016**

Postdoctoral Scholar

University of Pittsburgh

 *Department of Otolaryngology*

 *Laboratory of Karl Kandler*

**EDUCATION**

University of Kentucky 2008-2013

 *PhD in Physiology December 2013*

University of Kentucky 2006-2008

*Bachelor of Science in Biology May 2008*

University of Idaho 2004-2006

**ACADEMIC AND PROFESSIONAL HONORS**

T32 Fellowship (September 2016- August 2018)

DSF Charitable Foundation Fellowship-covered salary/fringe benefits (July 2014- June 2016)

Travel Award (2011 and 2012)

Delta Epsilon Iota Honor Society (member since 2008)

Awarded Magna Cum Laude from the University of Kentucky (2008)

Trustees Scholarship (2007-2008)

National Honor Society (member since 2001)

**PUBLICATIONS**

**Research Papers**

Ewin, S.E., Baldassaro, A.D., **Bach, E.C**., Heaney, C.F., Chappell, A.M., Raab-Graham, K.F., Weiner, J.L. (in preparation) Chemogenetic inhibition of a monosynaptic projection from the basolateral amygdala to the nucleus accumbens has dissociable effects on ethanol and sucrose appetitive behaviors. In preparation.

Ewin, S.E*,***Bach, E.C.,** Baldassaro, A.D., Dyson, C., Weiner, J.L. (in preparation) Adolescent social isolation disrupts the excitatory-inhibitory balance in the NAc core. In preparation.

**Eva C. Bach**, Barry E. Stein, Benjamin A. Rowland. Multisensory integration in the superior colliculus of the mouse. In preparation.

**Bach EC**, Kandler K. Activity dependent plasticity of glycine receptors in the developing auditory brainstem. In preparation.

**Eva C. Bach**, John W. Vaughan, Barry E. Stein, Benjamin A. Rowland. [Pulsed Stimuli Elicit More Robust Multisensory Enhancement than Expected](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5758560/). Front Integr Neurosci. 2017; 11: 40. Published online 2018 Jan 4. doi: 10.3389/fnint.2017.00040

Lee H, **Bach EC,** Noh J, Delpire E, Kandler K**.** Hyperpolarization- and KCC2-independent maturation and refinement of GABA/glycinergic connections in the auditory brainstem. Journal of Neurophysiology. 2016 Mar 1;115(3):1170-82

**Bach EC**, Halmos KC, Smith BN. Enhanced NMDA receptor-mediated modulation of excitatory neurotransmission in the dorsal vagal complex of type 1 diabetic mice. PLoS One. 2015 Mar 23;10(3):e0121022.

**Bach EC**, Smith BN. [Presynaptic NMDA receptor-mediated modulation of excitatory neurotransmission in the mouse dorsal motor nucleus of the vagus.](http://www.ncbi.nlm.nih.gov/pubmed/22696534) Journal of Neurophysiology. 2012 Sep;108(5):1484-91

[Hunt RF](http://www.ncbi.nlm.nih.gov/pubmed?term=Hunt%20RF%5BAuthor%5D&cauthor=true&cauthor_uid=22047981), [Haselhorst LA](http://www.ncbi.nlm.nih.gov/pubmed?term=Haselhorst%20LA%5BAuthor%5D&cauthor=true&cauthor_uid=22047981), [Schoch KM](http://www.ncbi.nlm.nih.gov/pubmed?term=Schoch%20KM%5BAuthor%5D&cauthor=true&cauthor_uid=22047981), [**Bach EC**](http://www.ncbi.nlm.nih.gov/pubmed?term=Bach%20EC%5BAuthor%5D&cauthor=true&cauthor_uid=22047981), [Rios-Pilier J](http://www.ncbi.nlm.nih.gov/pubmed?term=Rios-Pilier%20J%5BAuthor%5D&cauthor=true&cauthor_uid=22047981), [Scheff SW](http://www.ncbi.nlm.nih.gov/pubmed?term=Scheff%20SW%5BAuthor%5D&cauthor=true&cauthor_uid=22047981), [Saatman KE](http://www.ncbi.nlm.nih.gov/pubmed?term=Saatman%20KE%5BAuthor%5D&cauthor=true&cauthor_uid=22047981), [Smith BN](http://www.ncbi.nlm.nih.gov/pubmed?term=Smith%20BN%5BAuthor%5D&cauthor=true&cauthor_uid=22047981). Posttraumatic mossy fiber sprouting is related to the degree of cortical damage in three mouse strains. Epilepsy Research. 2012 Mar;99(1-2):167-70.

[Fannon M](http://www.ncbi.nlm.nih.gov/pubmed?term=Fannon%20M%5BAuthor%5D&cauthor=true&cauthor_uid=22378222), [Forsten-Williams K](http://www.ncbi.nlm.nih.gov/pubmed?term=Forsten-Williams%20K%5BAuthor%5D&cauthor=true&cauthor_uid=22378222), [Zhao B](http://www.ncbi.nlm.nih.gov/pubmed?term=Zhao%20B%5BAuthor%5D&cauthor=true&cauthor_uid=22378222), [**Bach E**](http://www.ncbi.nlm.nih.gov/pubmed?term=Bach%20E%5BAuthor%5D&cauthor=true&cauthor_uid=22378222), [Parekh PP](http://www.ncbi.nlm.nih.gov/pubmed?term=Parekh%20PP%5BAuthor%5D&cauthor=true&cauthor_uid=22378222), [Chu CL](http://www.ncbi.nlm.nih.gov/pubmed?term=Chu%20CL%5BAuthor%5D&cauthor=true&cauthor_uid=22378222), [Goerges-Wildt AL](http://www.ncbi.nlm.nih.gov/pubmed?term=Goerges-Wildt%20AL%5BAuthor%5D&cauthor=true&cauthor_uid=22378222), [Buczek-Thomas JA](http://www.ncbi.nlm.nih.gov/pubmed?term=Buczek-Thomas%20JA%5BAuthor%5D&cauthor=true&cauthor_uid=22378222), [Nugent MA](http://www.ncbi.nlm.nih.gov/pubmed?term=Nugent%20MA%5BAuthor%5D&cauthor=true&cauthor_uid=22378222). Facilitated diffusion of VEGF165 through descemet's membrane with sucrose octasulfate. Journal of Cell Physiology. 2012 Nov;227(11):3693-700.

**Abstracts**

Ewin, S.E.,**Bach, E.C**., Baldassaro, A.D., Chappell, A.M., Weiner, J.L. (accepted 2019) Examining the role of the BLA-NAc circuitry in a model of vulnerability to alcohol use disorder. Research Society on Alcoholism, Minnesota, MN.

**Eva Bach;** Karl Kandler. GABA- and glutamate-dependent long-term potentiation of developing glycinergic MNTB-LSO synapses during tonotopic map refinement. Association of Research in Otolaryngology. February, 2018. Presented by Karl Kandler.

[**Eva Claudia Bach**](https://outlook.wakehealth.edu/OWA/redir.aspx?C=0kcOBpKkt36S54ZITP4gQ-0AeBUv_iPnDbE2vhOUZsneNM7gbXjVCA..&URL=http%3a%2f%2fwww.frontiersin.org%2fCommunity%2fWhosWhoActivity.aspx%3fsname%3dEvaBach%26UID%3d476523), Barry Edward Stein, John William Vaughan and Benjamin A Rowland. Patterned cross-modal cues evoke larger than expected multisensory enhancement. Society of Neuroscience Meeting, Washington, DC (2017)

**EC Bach,** K, Kandler. Activity dependent long-term-potentiation of MNTB-LSO synapses. Association for Research in Otolaryngology Meeting, Boston, MA (2017)

**EC Bach,** K, Kandler. Activity-dependent inhibitory long-term potentiation in the auditory brainstem. Gordon Research Conference. Lewiston, ME (2016).

**EC Bach,** K Kandler**.** Activity dependent plasticity in an inhibitory synapse in the auditory brainstem. Science 2015- Unleashed, Pittsburgh, PA (2015).

**EC Bach,** K Kandler. Activity dependent LTP in the auditory brainstem. Presented at the DataDine Postdoctoral Association of the University of Pittsburgh meeting. Pittsburgh, PA (2015).

**EC Bach**, BN Smith. Enhanced NMDA receptor-mediated currents in NTS neurons of T1-Diabetic mice.

1. Society of Neuroscience, San Diego (2013)
2. Barnstable Brown Obesity & Diabetes Research Day, Lexington, KY (2013)
3. Blue Grass Society for Neuroscience Spring Neuroscience Day, Lexington KY (2012)

**EC Bach**; BN Smith. NMDA receptors in the vagal complex in normal and diabetic mice.

1. Society of Neuroscience Meeting, New Orleans, LA (2012)
2. Department of Physiology Research Retreat, Cumberland Falls, KY (2012)
3. Blue Grass Society for Neuroscience Spring Neuroscience Day, Lexington KY (2012)
4. Barnstable Brown Obesity & Diabetes Research Day, Lexington, KY (2012)

**EC Bach;** BN Smith. Presynaptic NMDA receptors modulate glutamate release in the dorsal motor nucleus of the vagus in normal and diabetic mice.

1. Society of Neuroscience, Washington, DC (2011)
2. Barnstable Brown Obesity & Diabetes Research Day, Lexington, KY (2012)

**EC Bach**; BN Smith. Presynaptic NMDA receptor facilitation in the dorsal vagal complex.

1. Blue Grass Society for Neuroscience Spring Neuroscience Day, Lexington KY (2011)

2. Society for Neuroscience, San Diego, CA (2010)

3. Department of Physiology 50th Anniversary, Lexington, KY (2010)

4. Department of Physiology Research Retreat, Cumberland Falls, KY (2010)

RF Hunt; LA Haselhorst; **EC Bach**; J Rios-Pilier; KM Schoch; SW Scheff; K Saatman; BN Smith. Relationship between injury severity and posttraumatic epileptogenesis after controlled cortical impact in mice. Presented at the Society for Neuroscience, Chicago, OH (2009)

**TEACHING EXPERIENCE**

Synaptic Physiology for Biologists lecturer, Wake Forest School of Medicine, Spring 2019

Scientific Professionalism: Scientific Integrity (GRAD 714), Wake Forest School of Medicine, Spring 2018 and 2019

Neuro Seminar Guest Lecturer, Winston-Salem State University, Winston Salem, NC, Spring 2018.

Neuroscience Proseminar Course guest lecturer. University of Pittsburgh, PA, Fall 2014 and 2015.

Developmental Neuroscience Course guest lecturer. University of Pittsburgh, PA, Fall 2015.

**PROFESSIONAL SOCIETY AFFILIATIONS**

Society for Neuroscience (SfN)

Association for Research in Otolaryngology (ARO)

**RESEARCH EXPERIENCE**

**September 2018-Present**

Weiner J, PhD, Department of Physiology and Pharmacology, Wake Forest School of Medicine

**September 2016- September 2018**

Stein B and Rowland B, PhD, Department of Neurobiology and Anatomy, Wake Forest School of Medicine

**November 2013- August 2016**

Kandler K, PhD, Department of Otolaryngology, University of Pittsburgh

**October 2008- November 2013**

Bret N. Smith, PhD, Department of Physiology, University of Kentucky

**May 2007- August 2008**

Michael Fannon, PhD, Department of Ophthalmology, University of Kentucky

**August 2007- May 2008**

James MacLeod, VMD, PhD, Department of Veterinary Sciences, University of Kentucky

**January 2006- May 2006**

Eva Top, PhD, Department of Biological Sciences, University of Idaho