

East Tennessee State University
Quillen College of Medicine

Summary of Scholarly Activities

Department of Biomedical Sciences
July 1, 2014 – June 30, 2015

I. PUBLICATIONS

Note: *graduate student; **undergraduate student; ***medical student

I-A. Journal Publications

Ajjola OA, Yagishita D, Reddy NK, Yamakawa K, Vaseghi M, Downs AM, **Hoover DB**, Ardell, JL and Shivkumar K (2015) Remodeling of stellate ganglion neurons after spatially targeted myocardial infarction: neuropeptide and morphologic changes. *Heart Rhythm* May;12 (5):1027-35. PMID: 25640636.

Ardell JL, Cardinal R, **Beaumont E**, Vermeulen M, Smith FM, Andrew Armour J (2014) Chronic spinal cord stimulation modifies intrinsic cardiac synaptic efficacy in the suppression of atrial fibrillation. *Auton Neurosc* Dec;186:38-44. PMID: 25301713.

Balasz M, Szkilnik R, Brus R, Malinowska-Borowska J, Nowak D, **Kostrzewa RM**, Nowak P (2015) Perinatal manganese exposure and hydroxyl radical formation in rat brain. *Neurotoxicity Res* 27 Jan; 27: (1) 1-14. PMID: 25323423.

Borel N, Pospischil A, Hudson AP, Rupp J, **Schoborg RV** (2014) The role of viable but non-infectious developmental forms in chlamydial biology. *Frontiers in Cellular and Infection Microbiology* Jul 24; 4:97. PMID: 25105096.

Bull SJ, Bin JM, **Beaumont E**, Boutet A, Krimpenfort P, Sadikot AF, Kennedy TE (2014) Progressive disorganization of paranodal junctions and compact myelin due to loss of DCC expression by oligodendrocytes. *J Neuroscience* Jul 16; 34(29):9768-78. PMID: 25031414.

Chandley MJ, **Szebeni A, Szebeni K**, Crawford JD*, Stockmeier CA, Turecki G, **Kostrzewa RM Ordway GA** (2014) Elevated gene expression of glutamate receptors in noradrenergic neurons from the locus coeruleus in major depression. *Int J Neuropsychopharmacol* Oct;17 (10):1569-78. PMID: 24925192.

Chandley MJ, Crawford JD*, **Szebeni A, Szebeni K** and **Ordway GA** (2015) *NTRK2* expression levels are reduced in laser captured pyramidal neurons from the anterior cingulate cortex in males with autism spectrum disorder. *Molecular Autism* May 16; 6:28-39. PMID: 26000162.

Chandley MJ, Crawford JD, Szebeni A, Szebeni K, Ordway GA (2015) Erratum to: *NTRK2* expression levels are reduced in laser captured pyramidal neurons from the anterior cingulate cortex in males with autism spectrum disorder. *Mol Autism* Jun 20; 6:38. PMID: 26097675.

Crawford JD*, Chandley MJ, **Szebeni K, Szebeni A**, Waters B and **Ordway GA** (2015)

Elevated GFAP protein in anterior cingulate cortical white matter in males with autism spectrum disorder. *Autism Res* April 6; PMID: 25846779.

Daniel LL*, Daniels CR*, Harirforoosh S**, Foster CR, Singh M, **Singh K** (2014) Deficiency of ataxia telangiectasia mutated kinase delays inflammatory response in the heart following myocardial infarction. *J Am Heart Assoc* Dec; 3(6) (Article published with an editorial; Ataxia-Telangiectasia mutated kinase: A potential new target for suppressing inflammation in heart failure? Kukreja R.C. *J Am Heart Assoc*) PMID: 25520329.

Danysz W, Flik G, McCreary A, Tober C, Dimpfel W, Bizot JC, **Kostrzewa RM, Brown RW, Jatzke CC, Greco S, Jenssen AK, Parsons CG** (2015) Effects of sarizotan in animal models of ADHD: challenging pharmacokinetic-pharmacodynamic relationships. [Epub ahead of print] PMID 25796190.

Fan Y, Chen P, Li Y, **Ordway GA** and **Zhu MY** (2015) Effects of desipramine treatment on stress-induced up-regulation of norepinephrine transporter expression in rat brains. *Psychopharmacology (Berl) Jan*; 232 (2):379-390. PMID: 25038868.

Feng N, Huke S, Zhu G, Tocchetti CG, Shi S, Aiba T, Kaludercic N, **Hoover DB**, Beck SE, Mankowski JL, Tomaselli GF, Bers DM, Kass DA and Paolocci N (2014) Constitutive BDNF/TrkB signaling is required for normal cardiac contraction and relaxation. *Proc Natl Acad Sci USA* 112 Dec; (6):1880-1885. PMID: 25583515.

Gang TB, Hanley GA and **Agrawal A** (2015) C-reactive protein protects mice against *Streptococcus pneumoniae* infection via both phosphocholine-dependent and phosphocholine-independent mechanisms. *Infect Immun* May; 83(5):1845-1852. PMID: 25690104.

Hall JV, Sun J, Kintner, J, Slade J*, Bambino M**, Whittimore J and **Schoborg RV** (2014) Host nectin-1 is required for efficient *Chlamydia trachomatis* serovar E development. *Frontiers in Cellular and Infection Microbiology* Nov 6; 4:158. PMID: 25414835.

Hardwick JC, Ryan SE, Powers EN, **Southerland EM**, Ardell JL (2015). Angiotensin receptors alter myocardial infarction-induced remodeling of the guinea pig cardiac plexus. *Am J Physiol Regul Integr Comp Physiol* May 6; PMID: 25947168.

Hilton B*, Shkriabai N, **Musich PR**, Kvaratskhelia K, Shell S and **Zou Y** (2014) A new structural insight into XPA–DNA interactions. *Bioscience Reports* Dec;12:34 (6) 831-840. PMID: 25385088.

Hoover DB, Ozment TR, **Wondergem R**, Li C and Williams DL (2015) Impaired heart rate regulation and depression of cardiac chronotropic and dromotropic function in polymicrobial sepsis. *Shock* Feb; 43(2):185-191. PMID: 25271380.

Hutch CR, Hillard CJ, **Jia C**, Hegg CC (2015) An endocannabinoid system is present in the mouse olfactory epithelium but does not modulation olfaction. *Neuroscience* May 30; [Epub ahead of print] PMID: 26037800.

Jia C and Hegg CC (2015). Effect of IP3R3 and NPY on age-related declines in olfactory stem cell proliferation. *Neurobiol Aging* Feb;36(2):1045-56. PMID: 25482245.

Kintner J, **Schoborg RV**, Wyrick, PB and **Hall JV** (2015) Progesterone antagonizes the positive influence of estrogen on Chlamydia trachomatis serovar E in an Ishikawa/ SHT-290 co-culture model. *Pathogens Disease* Jun;73(4). PMID 25724891.

Lemmon VP, Popovich PG, Xu XM, Snow DM, Igarashi M, Beattie CE, Bixby JL; MIASCI Consortium (**Hagg T, Collaborator**) (2014) Minimum information about a spinal cord injury experiment: a proposed reporting standard for spinal cord injury experiments. *J Neurotrauma* Aug 1;31(15):1354-61. PMID: 24870067.

Li X, Zhao H, Tan X, **Kostrzewa RM**, Du G, Chen Y, Zhu J, Miao Z, Yu H, Kong J, Xu X (2015) Inhibition of connexin43 improves functional recovery after ischemic brain injury in neonatal rats. *Glia* May 19; [Epub ahead of print]. PMID: 25988944.

Sadakierska-Chudy A, **Kostrzewa RM**, Filip M (2015) A comprehensive view of the epigenetic landscape. Part DNA methylation, passive and active DNA demethylation pathways and histone variants. *Neurotoxicity Res* Jan 27 (1): 84-97. PMID: 25362550.

Segura-Aguilar J, **Kostrzewa RM** (2015) Neurotoxin mechanisms and processes relevant to Parkinson's Disease: an update. *Neurotoxicity Res* Apr; 27(3):328-354. PMID: 25631236.

Singh M, Dalal S*, **Singh K** (2014) Osteopontin: at the cross-roads of myocyte survival and myocardial function (Invited Review) *Life Sci* Nov 18;118(1)1-6. PMID: 25265596.

Smith ET*, Perry ET, Sears MB, **Johnson DA** (2014) Expression of recombinant human mast cell chymase with Asn-linked glycans in glycoengineered pichia pastoris. *Protein Expr Purif* Oct; 102:69-75. PMID: 25131858.

Szebeni A, Szebeni K, DiPeri T**, Chandley MJ, Crawford JD*, Stockmeier CA, **Ordway GA** (2014) Shortened telomere length in white matter oligodendrocytes in major depression: potential role of oxidative stress. *Int J Neuropsychopharmacol* Oct;17(10):1579-89. PMID: 24967945.

Wang Y*, **Musich PR**, Cui K, **Zou Y** and **Zhu MY** (2015) Neurotoxin-induced DNA damage is persistent in SH-SY5Y cells and LC neurons. *Neurotoxicity Res* May;27(4): 368-383. PMID: 25724887.

Wu J*, Bond C, Chen P, Li Y*, Shohet RV and **Wright GL** (2015) HIF-1 α in heart: Remodeling nucleotide metabolism. *J Mol Cell Cardiol* May;82:194-200. PMID: 25681585.

I-B. Books or Chapters:

Books:

Kostrzewa RM and T Archer (co-Editors) *Behavioral Neurotoxicology and Teratology for Current Topics in Behavioral Neuroscience* (CTBN) book series (Geyer M, C Marsden, B Ellenbroek, Editors) (Springer New York). (In progress). Each chapter is peer-reviewed and is treated as an individual refereed contribution. Each chapter is listed in Medline and PubMed as an article in the "journal" section.

Chapters:

Chandley M and **Ordway G**. *The noradrenergic system in depression and suicide*. In Koslow SH, Ruiz P, Nemeroff CB (Eds.) *A Concise Guide to Understanding Suicide: Epidemiology, Pathophysiology and Prevention*. Cambridge University Press; Oct. 2014, Chapter 35, pp. 325-335.

Ferslew, KE "Upper East Tennessee Regional Forensic Center" in Section 3, Office of the Chief Medical Examiner, State of Tennessee 2010 - Present. Part of The History of the NAME, 2014 edition, pages 72 - 75 (NAME_History_eBook_2014.pdf at www.The NAME.org/).

Ferslew KE. *Epidemiologic Basis of Alcohol-Induced Psychomotor Performance Impairment*. In: Caplan YH and Goldberger BA (Eds.); *Garriott's Medicolegal Aspects of Alcohol Lawyers & Judges Publishing Company, Inc*; Sept. 2014, Chapter 13, pp. 351-375.

Ferslew KE. *Experimental Basis of Alcohol-Induced Psychomotor Performance Impairment*. In: Caplan YH and Goldberger BA (Eds.); *Garriott's Medicolegal Aspects of Alcohol Lawyers & Judges Publishing Company*; Sept. 2014, Chapter 14, pp. 383-413.

Hagg T. *Axonal Regeneration in the Sensory Dorsal Column Pathway*. In: Kwok-Fai So, Xiao-Ming Xu, Eds.; *Neural Regeneration*, First Edition, Chapter 8, Academic Press, pp.273-287, 2015.

Weiss LM, Weiss F, Delbac J, **Hayman R**, Pan G, Dang X, and Zhou Z. *The Microsporidian Polar Tube and Spore Wall* In: *Microsporidia; Pathogens of Opportunity* First Edition, L.M. Weiss and J.J. Becnel, Eds. Wiley Blackwell Publishers; Ames, IA; Aug. 2014, Chapter 10.

II. PAPERS, ABSTRACTS, AND/OR PRESENTATIONS

II-A. Regional

Campbell E** and **Campbell SE**. A Study of the Kinetics of a Reaction Between Vo(Hedta)-1 and H2O2. Boland Undergraduate Research Symposium, ETSU, April 7, 2015.

Engelhaupt E** and **Thewke D**. Impact of Type 2 Cannabinoid Receptor (CB2) on Atherosclerotic Lesion Calcification. Boland Undergraduate Research Symposium, ETSU, April 7, 2015.

Fulmer M*, Engelhaupt E**, Garst C**, Brown S and **Thewke D**. The Effects of Type-2 Cannabinoid Receptor Deficiency on Late Stage Atherosclerosis. Appalachian Student Research Forum, ETSU, April 8-9, 2015 (**Mackenzie Fulmer - won 1st place in the Graduate Students/Doctoral Candidates Division**).

Gagel J***, Fleenor J***, Li Y and **Wright G**. Mitochondrial Transport Regulation by HIF-1 α . Appalachian Student Research Forum, ETSU, April 8-9, 2015.

Howard R** and **Kruppa M**. Isolation of Extracytosolic Vesicles from *Candida Albicans*: A Quorum Sensing Mechanism. Boland Undergraduate Research Symposium, ETSU, April 7 2015.

Jagadish P***, Jagadish A** and **Hoover DB**. Effects of GTS-21, A Selective Alpha-7 Nicotinic Acetylcholine Receptor Agonist, On Heart Rate And Contractility In Isolated Mouse Atria. Poster presented at the Appalachian Student Research Forum, ETSU (**Pooja Jagadish - won 2nd place in the Medical and Pharmacy Students Division**) April 8-9, 2015.

Jewett B**, **Szebeni A, Szebeni K**, Ardell JA, **Southerland M, Beaumont E** and **Ordway GA**. Inverse Changes in Ghrelin and A2A Receptor Gene Expression Levels in the Hippocampus of Heart Failure Canines Following Spinal Cord Stimulation. Boland Undergraduate Research Symposium, ETSU, April 7, 2015.

Johnson L**, DiPeri T**, Davis N, **Szebeni A, Szebeni K, Southerland M, Ordway GA** and Ardell JL. Locus Coeruleus and Hippocampal Tyrosine Hydroxylase Levels in A Pressure-Overload Model Of Heart Disease. Appalachian Student Research Forum, ETSU, April 8-9, 2015.

Kolarik A***, Crawford JD*, Chandley MJ and **Ordway GA**. Use Of Laser Capture Microdissection To Investigate Cell-Specific Gene Expression In Autism Spectrum Disorder. Appalachian Student Research Forum, ETSU, April 8-9, 2015.

Kwenda E**, **Szebeni A, Szebeni K** and **Ordway GA**. Intracellular Enzyme Activity Of Na⁺/K⁺ and Ca²⁺ and Mg²⁺ ATPase In The Cerebellum Of Autistic Patients. Appalachian Student Research Forum, ETSU, April 8-9, 2015.

Magnuson J** and **Kruppa M**. The Role of Transport Genes Rta3 and Gnp3 on the Morphogenesis of Candida Albicans. Boland Undergraduate Research Symposium, ETSU, April 7, 2015.

Musich PR, Price JB* and **Hoover DB**, Wilson RJ and Jones TC. New Things to Know About Mitochondria. Biomedical Sciences Mitochondria Interest Group, June 4, 2015.

Price JB*, **Hoover DB**, Wilson RJ and Jones TC. Analysis of 5-HT (Serotonin) Distribution And Localization In The Central Nervous System Of A Fishing Spider, Dolomedes Tenebrosus. Poster presentation at Appalachian Student Research Forum, ETSU, April 8-9, 2015.

Scofield SLC*, Daniels CR*, Dalal S*, **Singh M** and **Singh K**. Extracellular Ubiquitin Modulates Cardiac Fibrosis By Manipulating Cardiac Fibroblast Function. Appalachian Student Research Forum, ETSU, April 8-9, 2015.

Slade J*, Hall JV, Kintner J and **Schoborg RV**. Co-Infection of BALB/c Mice with Chlamydia Muridarum and Herpes Simplex Virus-2 (HSV-2) Significantly Reduces HSV-2-Induced Mortality and Viral Shedding. Appalachian Student Research Forum, ETSU, April 8-9, 2015.

Slade J*, Hall JV, Kintner J and **Schoborg RV**. Pre-infection of BALB/c Mice with Chlamydia muridarum Protects from Subsequent Herpes Simplex Virus Challenge. Appalachian Student Research Forum, ETSU, April 8-9, 2015. (**Jessica Slade – won 1st place in the Graduate Students/Doctoral Candidate Division**).

Watson J** and **Kruppa M**. Identification of Three Transcription Factors (Gzf3, Rfx1, Orf19.3928) Involved in Candida-Bacterial Interactions. Boland Undergraduate Research Symposium, ETSU, April 7, 2015.

Yakoob H**, Kintner J and **Schoborg RV**. Influence of Anti-HIV drug Elvitegravir on Chlamydial Development. Boland Undergraduate Summer Research Symposium, ETSU, April 7, 2015.

II-B. National

Ardell JL, **Beaumont E**, Nier H, **Southerland EM**, Griffin B, Armour JA and KenKnight BH. Vagal nerve stimulation elicits heart rate responses that are dependent on relative activation of both central and peripheral limbs of the autonomic nervous system: Defining the neural fulcrum. Heart Rhythm, San Diego, CA, 2014.

Beaumont E, **Southerland EM**, Hardwick J, Ryan S, KenKnight BH and Ardell JA. Chronic autonomic regulation therapy mitigates adverse remodeling induced by pressure overload in the guinea pig heart. American College of Cardiology (ACC), Washington, DC, 2014.

Borketey MA*, Brown SD and **Campbell SE**. Effects of gamma tocopherol and gamma tocotrienol on fatty acids metabolites in colorectal cancer. Pittcon 2015 Conference, New Orleans, LA, March 8-12, 2015.

Dalal S*, **Singh M** and **Singh K**. Osteopontin-stimulated apoptosis in cardiac myocytes involves reactive oxygen species and mitochondrial pathway. (*Poster presentation by Dr. Suman Dalal*) Experimental Biology Meeting, Boston, MA, April 1, 2015.

Deng MX, **Ordway GA** and **Zhu MY**. miRNAs 29b and 181a down-regulate expression of the norepinephrine transporter in PC12 cells. Society for Neuroscience, Washington DC, November 15-19, 2014.

Downs AM, Ozment TR, Bond CE, Elgazzar M, Williams DL and **Hoover DB**. Leukocytes may alter their mode of acetylcholine release during sepsis. Poster presentation at the 38th Annual Conference on Shock, June 6-9, 2015, Denver, CO, Shock 43 (Suppl. 1): 56, 2015.

Duffourc MM, **Schoborg RV**, McGowen K. Ramsey L, Theresa F, Lybrand C and Blackwelder RB (2014) Using integrated grand rounds to bridge basic and clinical sciences across a medical curriculum. Poster presentation at Association of American Medical Colleges Annual Meeting, Chicago; November 2014. Abstract #2068042.

Engelhaupt E**, Fulmer M* and **Thewke D**. Impact of type 2 cannabinoid receptor on atherosclerotic lesion calcification. Posters-at-the State Capitol, Nashville, TN, February 25, 2015.

Hall JV, Sun J, Kintner J, Slade J*, Bambino M**, Whittimore J and **Schoborg RV**. Use of a herpes simplex virus/chlamydia trachomatis in vitro co-infection model to identify nectin-1 as a host factor required for chlamydial development. American Society of Microbiology 1st Conference on Polymicrobial Infections, Washington, DC, November 2014 (*Oral presentation by J.V. Hall*).

Hilton B*, Gopal S, Xu L, Mazumder S, **Musich PR**, Cho BP and **Zou Y**. ATR plays a direct antiapoptotic role at mitochondria which is regulated by prolyl isomerase pin1. Platform presentation at The 17th Annual Midwest DNA Repair Symposium, Indiana University, Bloomington, IN, June 6-7, 2015. (**Ben Hilton received the First Place Award for his Platform Presentation**)

Hilton B*, Gopal S, Xu L, Mazumder S, **Musich PR**, Cho BP and **Zou Y** Dissociation dynamics of XPC-HR23B from damaged DNA is a determining factor of NER efficiency. Poster presentation at The 17th Annual Midwest DNA Repair Symposium, June 6-7, 2015, Indiana University, Bloomington, IN.

Hoover DB. Neuronal and neuroimmune mechanisms in sepsis, Rowan University School of Osteopathic Medicine, Department of Cell Biology, February 2015.

Joplin KH, **Duffourc M** and Lewis N (2014). Progress toward a genomic sequence of the flesh fly, *Sarcophaga crassipalpis*. Entomological Society of America Annual Meeting, November 16-19, 2014, Portland, Oregon

Kintner J, Wyrick, PB, Schoborg RV and **Hall JV**. Progesterone antagonizes estrogen-stimulated enhancement of chlamydia trachomatis serovar E infection in genital epithelial cell/stromal cell co-culture. Oral presentation at 7th Biennial Chlamydia Basic Research Society Meeting, March 2015. New Orleans, LA. (*Oral presentation by J.V. Hall*).

Kwofie F*, Greene R, Lowman D, Williams D and **Kruppa M**. Candida albicans hyphal mannan is structurally distinct from yeast mannan. American Society for Microbiology General Meeting 2015 New Orleans, May 30-June 3.

Leonard CA*, **Schoborg RV** and Borel N. Damage/danger associated molecular patterns (DAMPs) inhibit chlamydia pecorum and C. Trachomatis serovar E inclusion development in vitro. Poster presentation at Seventh Biannual Meeting of the Chlamydia Basic Science Research Society, New Orleans, LA; March 2015.

Salavatian S, **Beaumont E**, Longpré JP, Armour JA, Vinet A, Jacquemet V and Ardell JL. Vagal

Scofield SLC*, Daniels CR*, Dalal S*, **Singh M, Singh K**. Extracellular ubiquitin modulates cardiac fibroblast phenotype and function. (*Poster presentation by Stephanie Scofield*) Experimental Biology Meeting, March 28 – April 01, 2015, Boston, MA.

Slade, J*, **Hall, JV**, Kintner J and **Schoborg RV**. Pre-infection of BALB/c mice with chlamydia muridarum protects mice from subsequent herpes simplex virus challenge. Poster presentation at the ASM 1st Conference on Polymicrobial Infections, Washington, DC, November 2014 (*Oral presentation by J. Slade*)

Slade J*, **Hall JV**, Kintner J and **Schoborg RV**. Pre-infection of BALB/c mice with chlamydia muridarum protects from subsequent herpes simplex virus challenge. Seventh Biannual Meeting of the Chlamydia Basic Science Research Society, New Orleans, LA, March 2015 (Poster presentation by J. Slade).

Slade J*, **Hall JV**, Kintner J and **Schoborg RV**. Co-infection of BALB/c mice with Chlamydia muridarum and Herpes Simplex Virus-2 (HSV-2) significantly reduces HSV-2-induced mortality and Viral Shedding. Poster presentation at 7th Biennial Chlamydia Basic Research Society Meeting, March 2015, New Orleans, LA (*Poster presentation by J. Slade*)

Wu J*, Bond C, Li Y and **Wright G**. The purine nucleotide cycle: a cardioprotective pathway induced by HIF-1 α . *Experimental Biology The FASEB Journal* (887.4) 2014.

Zhu MY, Cui K, Yang F, Fan Y*, Peterson D*, Cummins B* and **Brown RW**. Effects overexpressed transcription factors in the locus coeruleus on dopamine phenotypes in the brain of parkinson's mouse models. Society for Neuroscience Meeting, Washington DC, November 15-19, 2014.

II-C. International

Beaumont E, Southerland EM, Ryan S, KenKnight BH, Ardell JA. Chronic autonomic regulation therapy mitigates adverse pumping function induced by myocardial infarction and hypertension in guinea pigs. European Society for Cardiology (Heart failure), Athens, Greece, 2014.

Bélanger-Nelson E, Freyburger M, **Beaumont E**, Pouliot P, Lesage F, Mongrain V. Brain hemodynamic response to somatosensory stimulation in neuroligin-1 knockout mice. *CAN*, 2014.

He Z, Bernard A, **Defoe D**, Piselli S, Acquart S, Forest F, DuMollard JM, Peoc'H M, Gain P and Thuret G. 3D reconstruction of corneal endothelial cell shape: new insight in structure-function relationships. European Association for Vision and Eye Research (EVER), Abstract S067, October 4, 2014.

Kostrzewa RM. L-DOPA effects on levels of hydroxyl radical in striatal tissue & microdialysates of parkinsonian rats vii. Neurotoxicity Society Meeting, Cuenca, Spain, 12-16 April 2015.

Leonard CA and **Schoborg RV**, and Borel N. Damage/danger associated molecular patterns (damps) inhibit chlamydia pecorum and C. trachomatis Serovar E inclusion development in vitro. 13th Annual German Chlamydia Workshop, Vienna, Austria: Feb. 11, 2015.

III INVITED PRESENTATIONS

III-A. Regional

Beaumont, E. "Chronic Autonomic Regulation Therapy Mitigates Adverse Neuronal Remodeling Induced by Pressure Overload." Department of Biomedical Sciences Seminar Series, Quillen College of Medicine, Johnson City, TN, November 26, 2014.

Campbell SE. "To E or Not to E? Vitamin E Isoforms as Therapeutics and Preventatives for Colon Cancer." Department of Biomedical Sciences Seminar Series, Quillen College of Medicine, Johnson City, TN, November 7, 2014.

Defoe, D. "Does (Cell) Shape Matter?" Department of Biomedical Sciences Seminar Series, Quillen College of Medicine, Johnson City, TN, October 10, 2014.

Ecay T. "The Ins and Outs of Calcium Accumulation during Embryonic Development." Department of Biomedical Sciences Seminar Series, Quillen College of Medicine, Johnson City, TN, November, 21, 2014.

Hagg, T. “Regulating CNTF to Increase Adult Forebrain Neurogenesis After Stroke.” Department of Biomedical Science Seminar Series, Quillen College of Medicine, Johnson City, TN, August 1, 2014.

Johnson D. “Emphysema, Death by Oxygen and SERPINS.” Department of Biomedical Science Seminar Series, Quillen College of Medicine, Johnson City, TN, May 15, 2015.

Kostrzewa, R. “L-DOPA and Striatal Hydroxyl Radicals in Parkinsonian Rats.” Department of Biomedical Sciences Seminar Series, Quillen College of Medicine, Johnson City, TN, August 1, 2014.

Kruppa M. “Everything You Wanted to Know About Candida Albicans... But Were Afraid to Ask.” Department of Biomedical Sciences Seminar Series, Quillen College of Medicine, Johnson City, TN, March 6, 2015.

Ordway G. “Stress is Something You Should Avoid: Insights from the Study of Oligodrocytes in the Human Brain.” Department of Biomedical Sciences Seminar Series, Quillen College of Medicine, Johnson City, TN, April 10, 2015.

Schoborg R. “Chlamydia trachomatis: A Persistent Problem.” Department of Biomedical Sciences Seminar Series, Quillen College of Medicine, Johnson City, TN, October 3, 2014.

Thewke D. “Role of Cannabinoid Receptor Type 2 in the Pthophysiology of Athersclerosis.” Department of Biomedical Science Seminar Series, Quillen College of Medicine, April 3, 2015.

Wright G. “O₂-Sensory Induced Cytoprotective Mechanisms.” Department of Biomedical Sciences Seminar Series, Quillen College of Medicine, Johnson City, TN, October 17, 2014.

Zhu MY. “A Genetic Strategy to Restore Impaired Noradrenergic Function by Increasing Expression of Noradrenergic Phenotypes in the Locus Coeruleus in Parkinson’s Disease Model Mice.” Department of Biomedical Sciences Seminar Series, Quillen College of Medicine, November 14, 2014.

Zou Y. “A Novel Role of Ataxia telangiectasia RAD3-related (ATR) in Cell Death.” Department of Biomedical Science Seminar Series , Quillen College of Medicine, Johnson City, TN, April 17, 2015.

III-B. National

Agrawal A. “Mechanisms of Host-Defense Functions of C-reactive Protein.” Twinbrook Immunology Interest Group Seminar Series, NIH National Institute of Allergy and Infectious Diseases, Rockville, MD, January 27, 2015.

Ferslew K. “Pharmacology/Toxicology of Alcohol and Pharmacology/Toxicology of Drugs. Invited Presentation in the “DUI for Prosecutors” Seminar for the Tennessee District Attorneys General Conference in Memphis, Tennessee, September 16-18, 2014.

Ferslew K. “Forensic Investigation and Analysis of the Use and Effects of Prescription Drugs on the Cognitive Thought Process and Psychomotor Skills of a Driver - A Case Study.” Invited

presentation in the Advanced Trial / ADR Techniques and Strategies for the Trial Attorney Seminar for the Tennessee Jury Trial Attorneys and Judges for Tennessee Attorneys in Cherokee, NC, September 18 - 19, 2014.

Hayman R. "Bacterial Meningitis." Department of Pharmaceutical Sciences, Campbell University, Buies Creek, NC, November 2014.

Hoover D. "Neuronal and Neuroimmune Mechanisms in Sepsis." Rowan University School of Osteopathic Medicine, February 2015.

Schoborg R. "Chlamydia trachomatis: A Stealth Pathogen." Lees McRae College, Department of Biology, Banner Elk, NC, Oct. 22, 2014.

Schoborg R. "Where Can a Bachelors in Science Take You?" Lees McRae College, Department of Biology, Banner Elk, NC, Oct. 22, 2014.

Schoborg R. "What Do Pathogens and Children Have in Common? They Don't Share Well." Department of Microbiology, Oklahoma State University, March 9, 2015.

III-C. International

Kostrzewa R. Invited to attend the VII Neurotoxicity Meeting in Cuenca, Spain, 12-16 April 2015. Paper presentation entitled, "L-DOPA and p-Chloroamphetamine (PCA) Effects on Hydroxyl Radical Levels in Striatal Tissue and in vivo Microdialysates of Parkinsonian Rats" in the symposium on 'Neurodegeneration and Neuroinflammation in Parkinson's Disease'.

Zou Y. Invited Platform presentation on Pin1 regulation of DNA damage response functions of Ataxia telangiectasia RAD3-related (ATR), Society of Chinese Bioscientists in America, 15th International Symposium, Taipei, June 26-29, 2015,

IV. Other

None

V. VISITING PROFESSORS

Name: Nikolaos G. Frangogiannis, MD
Title: Professor
Institution: Albert Einstein College of Medicine, New York
Date: September 29, 2014
Event: External Seminar Series
Topic: "Fibroblasts and the extracellular matrix in cardiac remodeling"

Name: Beth A. Habecker, PhD
Title: Professor, Interim Chair, Dept. Physiology & Pharmacology
Institution: OHSU School of Medicine, Portland OR
Date: October 21, 2014

Event: External Seminar Series
 Topic: "Post-infarct remodeling of cardiac sympathetic nerves and arrhythmia"

Name: Cory Leonard, PhD
 Title: Postdoctoral Fellow
 Institution: Institute of Veterinary Pathology, University of Zurich
 Date: October 23, 2014
 Event: External Seminar Series
 Topic: "Danger associated molecular patterns (DAMPs) inhibit *Chlamydia* inclusion development"

Name: James W. Geddes, PhD
 Title: Director and Professor, Spinal Cord and Brain Injury Research Center
 Institution: University of Kentucky, Lexington KY
 Date: November 10, 2014
 Event: External Seminar Series
 Topic: "Why so many calpains? Roles of typical and atypical calpains in the CNS"

Name: Thirumala-Devi Kanneganti, PhD
 Title: Member, St. Jude Faculty
 Institution: St. Jude's Children's Research Hospital, Memphis TN
 Date: December 2, 2014
 Event: External Seminar Series
 Topic: "IL-1 regulation in inflammatory disease"

Name: Thomas Huckaba, PhD
 Title: Assistant Professor, Department of Biology
 Institution: Xavier University of Louisiana, New Orleans LA
 Date: April 14, 2015
 Event: External Seminar Series
 Topic: "Altered properties of human kinesins with mutations that cause hereditary spastic paraplegia"

Name: Carey N. Pope, PhD
 Title: Regents Professor/Sitlington Chair of Toxicology
 Department of Physiological Sciences, College of Veterinary Medicine
 Institution: Oklahoma State University, Oklahoma City, OK
 Date: April 24, 2015
 Event: External Seminar Series
 Topic: "Endocannabinoids, nanoscavengers, and organophosphate toxicity"

Name: M. Stephen Trent, PhD
 Title: Professor, Department of Infectious Diseases
 Institution: University of Georgia, Atlanta, GA
 Date: May 1, 2015
 Event: External Seminar Series
 Topic: "It's what's on the outside that counts: Remodeling the bacterial cell surface"

Name: Rick C.S. Lin, PhD
Title: Professor of Neurobiology & Anatomical Sciences, Psychiatry and Human Behavior, Center for Developmental Disorders Research
Institution: University of Mississippi Medical Center, Jackson, MS
Date: May 11, 2015
Event: External Seminar Series
Topic: "Don't mess with serotonin during early brain development or else: Autism?"

VI. EXTRAMURAL FUNDING

GRANT FUNDING

Extramural Funding Awards:

Total New Extramural Funding Awarded to Biomedical Sciences PI: \$653,180

Total Amount of New Funding FY2015 Distribution: \$217,726

"Anti-apoptotic Role of Ataxia Telangiectasia and Rad3-Related" NIH; Yue Zou, PI; project funding period 9/1/14 to 8/31/17;

Total Direct: \$228,000; Total Indirect: \$87,840; **Total Award \$315,840**

Year Direct: \$76,000; Year Indirect: \$29,280; **Year Total \$105,280**

"Cholinergic anti-inflammatory mechanisms in sepsis and septic shock" NIH; Donald Hoover, PI; project funding period 9/1/14 to 8/31/17;

Total Direct: \$240,000; Total Indirect: \$97,340; **Total Award \$337,340**

Year Direct: \$80,000; Year Indirect: \$32,446; **Year Total \$112,446**

Continued Extramural Funded Grant Awards:

Total Amount of Continued Funding FY2015 Distribution: \$2,187,490

"Characterization of a novel host pathway that regulates chlamydial development." NIH-National Institute of Allergy and Infectious Disease; R01 AI095637-01; **Robert V. Schoborg, PI, Michelle M. Duffourc, Consultant; Jennifer Hall, Co-I;** project funding period 07-01-2011 to 07-31-2015;

Year Direct: \$244,838; Year Indirect: \$109,388; **Year Total \$354,226.**

"Efficacy of vagal nerve stimulations (VNS) in managing heart failure: Intrinsic cardiac nervous system as therapeutic target of VNS." Cyberonics. **Eric Beaumont, PI;** Jeff Ardell, John Andrew Armour, Co-I; project funding period 07-01-2012 to 06-30-2015;

Year Direct: \$50,000; Year Indirect: \$11,500; **Year Award: \$61,500.**

"Health Sciences Fellowship in Neurocardiology." American Heart Association. Jeffrey L. Ardell, PI; **Don Hoover, Co-I;** project funding period 01-01-2009 to 01-31-2016;

Year Direct: \$13,500 Year Indirect \$0.00; **Year Award: \$13,500.**

“Modulation of atherosclerosis by type 2 cannabinoid receptor.” NIH 1R15HL113878-01A1. **Douglas P Thewke, PI; Antonio Rusinol, Co-I;** project funding period 01-10-2013 to 12-31-2015;

Year Direct: \$83,333; Year Indirect: \$34,034; **Year Award: \$117,367.**

“Central sensory consequences of autonomic regulation therapy in the treatment of heart disease.” Cyberonics; **Eric Beaumont, PI;** project funding period 02-01-2014 to 01-31-2015;

Year Direct: \$68,493; Year Indirect: \$31,507; **Year Total: \$100,000.**

“Cholinergic anti-inflammatory response to vagal stimulation in polymicrobial sepsis.”

Greater Southeast Affiliate of the American Heart Association; Grant-in-Aid; **Donald B. Hoover, PI;** Cherie Bond and Tammy Ozment, **Co-I;** project funding period 07-01-2013 to 6-30-2015;

Year Direct: \$75,000; Year Indirect: \$7,500; **Year Total: \$82,500.**

“Targeting CNTF to increase adult forebrain neurogenesis.” NIH R01; **Theo Hagg, PI;** project funding period 04-15-2014 to 03-31-2019;

Year Direct: \$205,000; Year Indirect: \$94,300; **Year Total: \$299,300.**

“Vascular responses as therapeutic targets after SCI.” NIH (University of Louisville Sub-award); **Theo Hagg, PI;** project funding period 01-01-2014 to 07-31-2015;

Year Direct: \$142,484; Year Indirect: \$65,543; **Year Total \$208,027.**

“Oxidative DNA damage in brainstem oligodendrocytes in depressed suicide victims.”

American Federation for Suicide Prevention; **Gregory Ordway, PI;** project funding period 06-30-2014 to 07-01-2016;

Year Direct: \$44,976; Year Indirect: \$0; **Year Total: \$44,976.**

“Genetics of trans-kingdom interactions between candida and bacteria.” NIH R15; **Mike Kruppa, PI;** project funding period 06-14-2014 to 05-31-2017;

Year Direct: \$100,000; Year Indirect: \$40,662; **Year Total: \$140,662.**

“Evaluation of vagal nerve stimulation for treatment of heart failure.” Cyberonics, Inc.; Jeffrey Ardell, PI; J. Andrew Armour, **Eric Beaumont** and **E. Marie Southerland, Co-I;** project funding period 07-01-2013 to 06-30-2015;

Year Direct: \$359,330; Year Indirect: \$164,738; **Year Total: \$524,068.**

“Osteopontin: role in myocyte apoptosis and myocardial function” Dept. of Veterans Affairs; **Krishna Singh, Ph.D., PI;** project funding period 07-01-14 to 6-30-2018

Year Direct: \$241,364; **Year Total: \$241,364.**

Continued Extramural Funded Grant Extensions:

“Quillen College of medicine building 119 renovations.” NIH-NCRR; 1C06RR030651, Philip Bagnell, PI; **Gregory A. Ordway, Primary Author;** project funding period 03-18-2010 to 03-17-2015.

“Sequence effects of arylamine-DNA adducts: repair and replication.” National Institutes of Health (NIH-NCI) Type: R01CA098296; Bongsup Cho, PI; **Yue Zou, Co-PI;** project funding period 03-01-2010 to 02-28-2015.

“White matter glial pathology in autism.” Department of Defense-Department of the Army USAMRAA. **Gregory A. Ordway, PI**; project funding period 09-01-2012 to 08-31-2015

“Neurobiological Correlates of Stress and Norepinephrine Transporter” NIH R01 No-Cost Extension; **Meng-Yang Zhu, PI**; project funding period 04-01-2009 to 01-31-2015

Continued Extramural Funding for Grants Awarded to non-DBMS PI:

None

Intramural Grant Awards:

Total Internal Grants Awarded to Biomedical Sciences PI: \$21,060

“Alleviating Major Depressive Disorder by Treatment with Vitamin E Isoforms that Block Oxygen Damaged Neurons” ETSU RDC **Sharon Campbell, PI**, project funding period 7/1/14 to 6/30/15; Total Award \$9,800

“Title unknown” ETSU RDC **Theresa Harrison, PI**, project funding period 7/1/14 to 6/30/15; Total Award \$1,540

“Regulatory role of cytoplasmic ataxia” ETSU RDC, **Yue Zou, PI**, project funding period 7/1/14 to 6/30/15; Total Award \$9,720