



# **Department of Neuroscience, Cell Biology and Physiology**

## **Annual Report:**

January 1, 2018 – December 31, 2018

Eric Bennett, Ph.D.  
Professor and Chair

# 1

## Statement from the Chair

[Highlights of the year limited to 500 words]

NCBP is a matrix department within the Boonshoft School of Medicine (BSoM) and the College of Science and Mathematics (CoSM). NCBP faculty and staff strive to sustain excellence in basic, translational, and clinical research, while also providing the best in undergraduate, graduate, and medical education. Specific examples of the many accomplishments of our faculty and staff this past year (2018) include the following:

- A. Research:** Established/maintained well-funded research programs (>\$2.5M external funding) with a common focus on cell signaling in health and disease.
  - 1) **Federal funding** – Nearly all federal funding with >45% composite indirect rate (e.g., NIH, NSF, DARPA, AFRL)
  - 2) **Core Facilities** utilized by >30 faculty from 3+ colleges – a. Microscopy, b. “BioBank”, c. Small animal physiology
  - 3) **Peer-reviewed publications** – >30 in high impact journals
  
- B. Education:**
  - 1) **Medical student education** - NCBP faculty were significantly involved in the development, administration, and delivery of current and new BSOM curricula. For example, NCBP faculty members direct four and teach in five of seven basic science modules (courses) throughout the Wright Curriculum M1 and M2 years.
  - 2) **Ph.D. education/training** - NCBP is a significant contributor to the education and training of Ph.D. and M.D/Ph.D. students in the Biomedical Sciences program through mentoring students and delivery of core/elective courses.
  - 3) **M.S. degree programs** – Direct/deliver three M.S. programs training >30% of CoSM M.S. students. M.S. Programs in Anatomy, Microbiology & Immunology, and Physiology & Neuroscience provide interactive education and/or research experiences designed to prepare graduates for careers in the biomedical sciences.
  - 4) **Undergraduate education and programs**
    - a) NCBP faculty direct/deliver foundational “anatomy and physiology” coursework to >1,000 undergraduates/year.
    - b) The B.S. in Neuroscience program provides an innovative active learning educational experience designed to prepare graduates for careers in the biomedical sciences. Now in its second year, the program had >80 majors, a fall to spring retention rate of >90%, and revenue that far-exceeds expenses.
  
- C. Service:** NCBP faculty are highly involved in service to their respective disciplines, the community, and within the University. Examples include: manuscript review, editorial board memberships, grant review panels, leadership roles in professional organizations, and membership/leadership roles in NCBP, CoSM, BSOM, and WSU committees.
  
- D. Outreach:** Examples include: Horizons in Medicine; STEMM; Women in Science Giving Circle; Destination Imagination; Neuroengineering Research for HS students.
  - Of particular note: Interactive lab experiences for high school students** – NCBP faculty developed two interactive laboratory experiences for high school students: 1) Human Anatomy and Physiology (HAPI lab) and 2) NeuroLab. The HAPI lab completed its 5th year and has received significant regional and national acclaim as an exemplary experiential program designed to excite and educate high school students about the biomedical sciences. The NeuroLab was similarly successful in its inaugural year. For their efforts, the leaders of each experience, Ms. Bridgett Severt and Dr. Patrick Sonner, received the College of Science and Mathematics Faculty Excellence Award - Spirit of Innovation.
  
- E. Awards/Honors:** Three NCBP faculty members received five teaching/mentoring/faculty awards in 2018, with four awards received by students/trainees working in NCBP labs.

## 2 Programs/Divisions

Name of Division or Program	Director	Dates
Neuroscience Institute	Mark M. Rich, M.D., Ph.D.	2015-Present

## 3 Fully Affiliated Faculty

Name and Academic Position	Clinical Interests	Research Interests
[list fully affiliated faculty, including statement of clinical and research interests]		
Eric Bennett, Ph.D., Full Professor and Chair		Control and modulation of cardiac and neuronal function by posttranslational modifications
Nancy Bigley, Ph.D., Full Professor		Herpes simplex virus, interferons and signaling pathways
Thomas Brown, Ph.D., Full Professor		Cell death; differentiation and development
Adrian Corbett, Ph.D., Associate Professor		Excitation-contraction coupling; Sodium channel subtypes; Brain neurogenesis
Andrew Ednie, Ph.D., Research Assistant Professor		Understanding the role of post translational modifications in regulating cardiac and neuronal function
Sherif Elbasiouny, Ph.D., Associate Professor		Cellular mechanisms regulating neuronal excitability and motor system output
Kathrin Engisch, Ph.D., Associate Professor		Neurotransmitter release
Robert Fyffe, Ph.D., Full Professor		Cellular and synaptic neuroscience
Dan Halm, Ph.D., Associate Professor		Epithelial physiology; Secretory signal transduction

<b>Name and Academic Position</b>	<b>Clinical Interests</b>	<b>Research Interests</b>
J. Ashot Kozak, Ph.D., Associate Professor		Ion transport pathways in T lymphocytes; Calcium signaling
Barbara Kraszpuska, Ph.D., Associate Professor		Medical and graduate education; Gross Anatomy
Michal Kraszpuski, Ph.D., Lecturer		Graduate education; Neuroscience
David Ladle, Ph.D. Associate Professor		Development and recovery after injury of the somatosensory system
Michael Mattot, Ph.D. Assistant Professor		Medical and graduate education; Physiology
Debra Mayes, Ph.D., Assistant Professor		Effects of junction proteins on stress, metabolism, and cell proliferation/death in vascular, cancer, and neurodegenerative disease models
Gary Nieder, Ph.D., Full Professor		Medical and graduate education; Educational technology
Mark Rich, M.D., Ph.D., Full Professor	Neurology	Synaptic plasticity; Critical illness myopathy
Nick Ritucci, Ph.D., Lecturer		Undergraduate and medical education; Physiology
Bridgett Severt, M.D., Lecturer		Undergraduate education; Anatomy
Patrick Sonner, Ph.D., Instructor		Undergraduate and graduate education; Neuroscience
Keiichiro Susuki, M.D., Ph.D., Assistant Professor		Symptoms in a broad range of diseases including multiple sclerosis, traumatic brain injury, and various forms of neuropathy
Xueyong Wang, Ph.D., Research Assistant Professor		Neuromuscular transmission, muscle excitability
Clintoria Williams, Ph.D., Assistant Professor		Pathophysiology of kidney disease.
Dawn Wooley, Ph.D., Full Professor		Virology HIV-1; AIDS; Biosafety; Biodefense
Christopher Wyatt, Ph.D., Associate Professor		Cellular mechanisms of oxygen sensing

# 4 Teaching

## **Baccalaureate** [any course for a bachelor's degree]

ANT 2100 Human Anatomy and Physiology I  
ANT 2100L Human Anatomy and Physiology I Lab  
ANT 2120 Human Anatomy and Physiology II  
ANT 2120L Human Anatomy and Physiology II Lab  
ANT 3100 Human Structure and Function I  
ANT 3100L Human Structure and Function I Lab  
ANT 3120 Human Structure and Function II  
ANT 3120L Human Structure and Function II Lab  
ANT 4340 Biological Safety  
ANT 4880 Independent Reading Anatomy  
ANT 4990 Selected Topics in Anatomy  
BIO 3050 Animal Physiology  
BIO 4000 Capstone  
BIO 4950 Senior Honors Research  
BIO 4990 Special Problems in Biology  
BME 4950 Independent Research Study  
MI 4260 Immunology  
MI 4310 Virology  
MI 4750 Pathogenic Mechanisms  
NEU 1000 Introduction to Neuroscience Research  
NEU 2000 Introduction to Undergraduate Neuroscience Program for Majors  
NEU 3100 How the Nervous System Works I  
NEU 3200 How the Nervous System Works II  
NEU 3400 Advanced Techniques in Neuroscience: Microscopy  
NEU 4030 Neuroscience/Biomedical Review Article  
NEU 4990 Independent Research Neuroscience  
PN 4880 Independent Reading in Physiology  
PN 4990 Special Problems in Physiology  
PSY 2910 Drugs and Behavior  
PSY 3910 Behavioral Neuroscience  
PSY 4060 Independent Research Study  
PSY 4940 Animal Behavior Capstone  
PSY 4941 Field Study

SM 1010 Scientific Literacy for the 21<sup>st</sup> Century

SM 2100 Scientific Inquire - ASK

**Graduate students, including thesis supervision** [master's, doctor's post-doctoral]

ANT 5100 Advanced Human Structure and Function I

ANT 5100L Advanced Human Structure and Function I Lab

ANT 5120 Advanced Human Structure and Function II

ANT 5120L Advanced Human Structure and Function II Lab

ANT 6340 Biological Safety

ANT 6990 Special Problems in Anatomy

ANT 7000 Human Anatomy Instruction

ANT 7010 Selected Topics in Anatomy

ANT 7020 Anatomical Techniques

ANT 7110 Human Gross Anatomy

ANT 7150 Advanced Human Embryology

ANT 7210 Human Microanatomy

ANT 7310 Human Neurobiology

ANT 8000 Anatomy Seminar

ANT 8510 Scholarly Project

ANT 8600 Principles of Biomedical Research

ANT 8990 Anatomy Research

BME 7380 From Neurons to Behavior – In Health Disease

BME 7990 Independent Research Study

BMS 9970 Lab Rotation

BMS 9990 Dissertation Research

MI 6750 Pathogenic Mechanisms

MI Special Problems

MI 7260 Immunology

MI 7310 Virology

MI 7890: Research in Microbiology & Immunology

MI 8000 Microbiology and Immunology Seminar

PN 6100 Human Physiology

PN 6300 Medical Cell Biology & Physiology

PN 7010 Selected Topics in Physiology

PN 7220 Ion Channels

PN 7750 Neuroscience and Physiology

PN 7760 Intercellular Communications

PN 8000 Physiology Seminar

PN 8600 Principles in Biomedical Research

PN 8990 Physiology Research

## **Undergraduate medical education** [medical school]

SMD 8130 Clinical Medicine

SMD 8170 Origins 2

SMD 8180 Human Architecture

SMD 8210 Beginning to End

SMD 8220/8225 Balance, Control and Repair

SMD 8590 Staying Alive

Wright Q small group facilitators

## **Continuing medical education** [grand rounds, seminars]

**Kraszpulska B.** Emotional impact of cadaver dissection on medical and dental students, Marian Osteopathic School of Medicine, Indianapolis, IN, 12/20/2018.

**Rich MM.** Treating weakness in critically ill patients, Weill Cornell Medicine, New York City, 4/12/2018 - 4/13/2018.

# 5 Scholarly Activity

## **Funded grants**

Extramural - Active, Dr. Bennett, NSF, Regulated sialylation modulates cardiac excitability and conduction, P.I. Eric Bennett, (10/01/2016 to 04/30/2019). Total \$354569, Direct Current Year \$247702, Indirect Current Year \$106867, Total cost for entire grant period \$1059259.

Extramural - Active, Dr. Bennett, NSF/USF, Regulated sialylation modulates cardiac excitability and conduction, P.I. Eric S Bennett, (09/01/2017 to 04/30/2020). Total \$15248.93, Direct Current Year \$10256, Indirect Current Year \$4992.93, Total cost for entire grant period \$15249.

Extramural - Active, Dr. Brown, Gala of Hope Foundation, Dayton Collaborative for Childhood Cancer, P.I. Rob Lober. Total cost for entire grant period \$198870.

Extramural - Active, Dr. Brown, Mayfield Education and Research Foundation, Role of repressed tumor suppressor genes in DIPG treatment resistance., P.I. Rob Lober. Total cost for entire grant period \$48500.

Extramural - Active, Dr. Brown, NIH NIDDK 2R01DK095132-05A1 , The maternal-fetal adiponectin differential and fetal fat deposition, P.I. Total cost for entire grant period \$1570000.

Extramural - Active, Dr. Elbasiouny, Defense Advanced Research Projects Agency (DARPA), Advanced algorithms for closed-loop prosthesis control, P.I. Sherif Elbasiouny, (03/20/2015 to 03/19/2018). Total \$118799, Direct Current Year \$96085, Indirect Current Year \$22714, Total cost for entire grant period \$356397, 22% salary for Dr. Elbasiouny.

Extramural - Active, Dr. Elbasiouny, National Academy of Sciences, Identification of Electrophysiological Markers for Early Diagnosis of Amyotrophic Lateral Sclerosis, P.I. Sherif Elbasiouny, (03/01/2018 to 02/28/2021) Total \$27904, Direct Current Year \$18854, Indirect Current Year \$9050, Total cost for entire grant period \$189769.

Extramural - Active, Dr. Elbasiouny, United States Air Force, ISAA (contract #: 670480), P.I. Sherif Elbasiouny, (01/26/2018 to 01/26/2019) Total \$150000, Direct Current Year \$100000, Indirect Current Year \$50000, Total cost for entire grant period \$150000, 22% salary for Dr. Elbasiouny.

Extramural - Active, Dr. Elbasiouny, National Institute of Neurological Disorders and Stroke, NIH, Mechanisms Underlying Excitability Regulation of Motoneuron Types in ALS, P.I. Sherif Elbasiouny, (02/01/2015 to

01/31/2020) Total \$323750, Direct Current Year \$105000, Indirect Current Year \$218750, Total cost for entire grant period \$1618750, 33% salary for Dr. Elbasiouny.

Extramural - Active, Dr. Elbasiouny, National Institutes of Health, The impact of neuromodulatory state on the excitability changes of motoneurons and the motor pool in ALS, P.I. Sherif Elbasiouny, (07/01/2018 to 01/31/2020) Total \$20055, Direct Current Year \$15850, Indirect Current Year \$4205, Total cost for entire grant period \$104636.

Extramural - Active, Dr. Elbasiouny, National Academy of Sciences, U.S.-Egypt S&T Visiting Lecture Series, P.I. Sherif Elbasiouny, (07/13/2018 to 02/28/2021) Total \$782, Direct Current Year \$522, Indirect Current Year \$260, Total cost for entire grant period \$2,347.

Extramural - Active, Dr. Kozak, National Institute of Allergy and Infectious Diseases, TRPM7 and Cellular pH, P.I. Juliusz Ashot Kozak, (12/10/2014 to 11/30/2019), 33% salary for Dr. Kozak.

Extramural – Active, Dr. Ladle, P01 NS057228, National Institute of Neurological Disorders and Stroke, NIH, Synaptic Function: Effect of the Nerve Injury, Repair and Altered Activity, Director of Core B, (12/16/15-2/28/19). Annual Total Award, ~\$104,000.

Extramural - Active, Dr. Rich, P01 NS057228, National Institute of Neurological Disorders and Stroke, NIH, Synaptic Function: Effect of the Nerve Injury, Repair and Altered Activity, PI Project 3, (09/15/2007 to 04/01/2019), Annual Total Award, \$225,000.

Extramural - Active, Dr. Rich, R01, NS074985, National Institute of Neurological Disorders and Stroke, NIH, Reduced Motoneuron Excitability in Sepsis, PI, (07/1/2014 to 06/30/2019), Annual Total Award, \$330,000.

Extramural - Active, Dr. Rich, MDA 378033, Muscular Dystrophy Association, PI, Developing Therapies for Myotonia Congenita, PI, (02/01/2016 to 01/31/2019), Annual Total Award, \$83,000.

Extramural - Active, Dr. Susuki, NIH, NINDS, R56NS107398, Disruption of excitable axonal domains by glucose metabolite methylglyoxal, P.I. Keiichiro Susuki, (8/15/2018 to 7/31/2019) Total \$390200, Direct Current Year \$275200, Indirect Current Year \$115000, Total cost for entire grant period \$404496, 35% salary for Dr. Susuki.

Extramural – Active, Dr. Williams, American Heart Association, Scientist Development Grant, Selective regulation of distal nephron sodium handling by calcineurin isoforms, PI - CR Williams, (01/01/2016-6/30/2020), Annual Total Award, \$77,000. Total Award, \$231,000, Annual Total Award, \$170,960. Total Award, \$517,880.

Extramural – Active, Dr. Williams, R21, NIH, National Institute for Diabetes, Digestive, and Kidney Disorders, PI – CR Williams, (09/20/2018-08/31/2021),

Internal - Active, Dr. Brown, PHP/WSU Neuroscience Institute Translational Human Stroke Research, Biomarker Analysis of Neuroinflammation and Impending Stroke in Humans, P.I. Thomas Brown, Total cost for entire grant period \$25,900.

Internal - Active, Dr. Brown, Wright State University Foundation, Endowment for Research on Pregnancy Associated Disorders, P.I. Thomas Brown.

Internal - Active, Dr. Brown, Wright State University Obstetrics and Gynecology Translational Research Initiative, Molecular Genetic Analysis Predictive of Preeclampsia and Its Severity in Human Pregnancy, P.I. Thomas Brown, Total cost for entire grant period \$30,000.

## Publications

### Papers in refereed journals

Adelman Z.N, Albritton LM, Boris-Lawrie K, Buchmeier MJ, Cannon,P, Cho M, DiGiust, D, Donahue JK, Federoff HJ, Hammarskjold M-L, Hardison AD. Hearing P, Lee B, Lee DA, Porteus MH, Ross LF, Ross SR, **Wooley DP**, Zoloth L. Protect NIH's DNA advisory committee. *Science*, 362, 409-410, 2018.

Albers RE, Selesniemi K, Natale DRC, and **Brown TL**. TGF- $\beta$  induces Smad2 Phosphorylation, ARE Induction, and Trophoblast Differentiation. *International Journal of Stem Cells*, 30, 111-120, 2018.

Albers RE, Waker CA, Keoni C, Kaufman MR, Bottomley MA, Min S, Natale DR, and **Brown TL**. Gestational Differences in Murine Placenta: Glycolytic Metabolism and Pregnancy Parameters. *Theriogenology*, 107, 115-126, 2018.

Allen JM and **Elbasiouny SM**. The effects of model composition design choices on high-fidelity simulations of motoneuron recruitment and firing behaviors. *Journal of Neural Engineering*, 15(3), 036024, 2018.



- Arumugam P, Carroll KL, Berceci SA, Barnhill S, **Wrenshall LE**. Expression of a Functional IL-2 Receptor in Vascular Smooth Muscle Cells. *J Immunol*. 2019 Feb 1;202(3):694-703. doi: 10.4049/jimmunol.1701151. Epub 2018 Dec 31.
- Beesetty P, Wierzchzak KB, Gibson JN, Kaitsuka T, Luu CT, Matsushita M, **Kozak JA**. Inactivation of TRPM7 kinase in mice results in enlarged spleens, reduced T-cell proliferation and diminished store-operated calcium entry. *Sci Rep*. 2018 Feb 14;8(1):3023. doi: 10.1038/s41598-018-21004-w.
- Chen R, Keoni C, Waker CA, **Lober RM**, Chen YH, Gutmann DH. KIAA1549-BRAF Expression Establishes a Permissive Tumor Microenvironment Through NFκB-Mediated CCL2 Production. *Neoplasia*. 2019 Jan;21(1):52-60. doi: 10.1016/j.neo.2018.11.007. Epub 2018 Nov 30.
- Ciura S, Prager-Khoutorsky M, Thirouin ZS, Wyrosdic JC, **Olson JE**, Liedtke W, Bourque CW. Trpv4 Mediates Hypotonic Inhibition of Central Osmosensory Neurons via Taurine Gliotransmission. *Cell Rep*. 2018 May 22;23(8):2245-2253. doi: 10.1016/j.celrep.2018.04.090.
- Du D, Yang H, **Ednie AR**, and **Bennett ES**. In-silico Modeling of the Functional Role of Reduced Sialylation in Sodium and Potassium Channel Gating of Mouse Ventricular Myocyte. *IEEE J Biomed Health Inform*, 22(2), 631-639, March, 2018.
- Ednie AR**, W. Deng, Yip K-P, and **Bennett ES**. Reduced Myocyte Complex N-glycosylation caused dilated cardiomyopathy. *FASEB Journal*, 33(1), 1248-1261, 2018.
- El-Amouri S, Huang L, Waker C, Smith C, and **Mayes DA**. N-acetylcysteine (NAC)-Induced Time-Dependent Blood Brain Barrier Permeability Flux - Differential Metabolic Regulation of Astrocytes and Endothelial Cells. *International Journal of Molecular Biology*, 3(6), 266-276, 2018.
- Evola C, Hudson T, Huang L, **Corbett A**, and **Mayes DA**. Gender- and Region-Specific Changes in Estrogen Signaling in Aging Rat Brain Mitochondria. *Aging*, 10(8), 2148-2169, 2018.
- Floyd TL, Dai Y, **Ladle DR**. Characterization of calbindin D28k expressing interneurons in the ventral horn of the mouse spinal cord. *Dev. Dyn.*, 247, 185-193, 2018.
- Ganesan R, Henkels KM, **Wrenshall LE**, Kanaho Y, Di Paolo G, Frohman MA, Gomez-Cambronero J. Oxidized LDL phagocytosis during foam cell formation in atherosclerotic plaques relies on a PLD2-CD36 functional interdependence. *J Leukoc Biol*. 2018 May;103(5):867-883. doi: 10.1002/JLB.2A1017-407RR. Epub 2018 Apr 14.
- Griggs RB, Yermakov LM, Drouet DE, Nguyen DVM, and **Susuki K**. Methylglyoxal disrupts paranodal axoglial junctions via calpain activation. *ASN Neuro*, 10, 1759091418766175, 2018.
- Imber AN, Patrone LGA, Li KY, Gargaglioni LH, **Putnam RW**. The Role of Ca<sup>2+</sup> and BK Channels of Locus Coeruleus (LC) Neurons as a Brake to the CO<sub>2</sub> Chemosensitivity Response of Rats. *Neuroscience*. 2018 Jun 15;381:59-78. doi: 10.1016/j.neuroscience.2018.03.031. Epub 2018 Apr 24.
- Jendzjowsky NG, Roy A, Barioni N, Kelly MM, Green FHY, **Wyatt CN**, Pye RL, Tenorio-Lopes, L, Wilson, RJA. Preventing acute asthmatic symptoms by targeting a neuronal mechanism involving carotid body lysophosphatidic acid receptors. *Nature Communications*, 9, 10.1038/s4167-018-06189-y, 2018.
- Lorusso S, Kline D, Bartlett A, Freimer M, Agriesti J, Hawash AA, **Rich MM**, Kissel JT, David Arnold W. Open-label trial of ranolazine for the treatment of paramyotonia congenita. *Muscle Nerve*. 2019 Feb;59(2):240-243. doi: 10.1002/mus.26372. Epub 2018 Dec 21.
- Mahrous AA and **Elbasiouny SM**. Modulation of SK channels regulates locomotor alternating bursting activity in the functionally-mature spinal cord. *Channels*, 12(1), 9-14, 2018.
- Maloney S, Akula S, Rieger M, McCullough K, **Corbett AM**, McGowin A, and Dougherty J. Examining the reversibility of long-term behavioral disruptions in progeny of maternal SSRI exposure. *eNeuro*, 5(4), 1-27, 2018.
- Preston D, Simpson S, **Halm D**, Hochstetler A, Schwerk C, Schroten H, Blazer-Yost BL. Activation of TRPV4 stimulates transepithelial ion flux in a porcine choroid plexus cell line. *Am J Physiol Cell Physiol*. 2018 Sep 1;315(3):C357-C366. doi: 10.1152/ajpcell.00312.2017. Epub 2018 May 23.
- Rakoczy R and **Wyatt CN**. Acute oxygen-sensing by the carotid body: a rattlebag of molecular mechanisms. *Journal of Physiology*, 596, 2969-2976, 2018.
- Rakoczy R, Pye RL, Fayyad TH, Santin JS, Barr BL and **Wyatt CN**. High fat feeding in rats alters respiratory parameters by mechanism that is unlikely to be mediated by carotid body type I cells', *Advances in Experimental Medicine and Biology*, 1071, 137-142, 2018.

Shekar SD, Garrett TL, and **Elbasiouny SM**. The vulnerability of spinal motoneurons and soma size plasticity in a mouse model of amyotrophic lateral sclerosis. *Journal of Physiology (London)*, 596(9), 1723-1745, 2018.

**Sonner PM** and **Ladle DR**. Facilitation of antagonist motor output through short-latency sensory pathways during postnatal development in the mouse. *Neurosci. Lett*, 674, 36-41, 2018.

**Susuki K**, Zollinger DR, Chang K-J, Zhang C, Huang CY, Tsai C-R, Galiano MR, Liu Y, Benusa SD, Yermakov LM, Griggs RB, Dupree JL, and Rasband MN. Glial II spectrin contributes to paranode formation and maintenance. *Journal of Neuroscience*, 38, 6063-6075, 2018.

Vysotskaya Z, Chidipi B, Rodgers JL, Tang X, Samal E, Kolliputi N, Mohapatra S, **Bennett ES**, Panguluri SK. Elevated potassium outward currents in hyperoxia treated atrial cardiomyocytes. *Journal of Cell Physiology*, 233, 4317-4326, 2018.

Wang X, and **Rich MM**. Homeostatic synaptic plasticity at the neuromuscular junction in myasthenia gravis. *Ann N Y Acad Sci*, 1412, 170-177, 2018.

Wang X, McIntosh JM, and **Rich MM**. Muscle Nicotinic Acetylcholine Receptors May Mediate Trans-Synaptic Signaling at the Mouse Neuromuscular Junction. *Journal of Neuroscience*, 38, 1725-1736, 2018.

Yermakov LM, Drouet DE, Griggs RB, Elased KM, and **Susuki K**. Type 2 diabetes leads to axon initial segment shortening in db/db mice. *Front Cell Neuroscience*, 12, 146, 2018.

Zhelay T, Wiczerzak KB, Beesetty P, Alter GM, Matsushita M, **Kozak JA**. Depletion of plasma membrane-associated phosphoinositides mimics inhibition of TRPM7 channels of cytosolic Mg<sup>2+</sup>, spermine and pH. *Journal of Biological Chemistry*, 293, 18151-158167, 2018.

## Posters

**Ednie AR**, Deng W, Yip K-P, and **Bennett ES**. Clinically relevant congenital reductions in cardiomyocyte N-glycosylation is sufficient to cause premature death from dilated cardiomyopathy, *Experimental Biology 2018*, San Diego 4/21/2018 - 4/25/2018 (Poster).

Evola C, Hudson T, Huang L, **Corbett A**, and **Mayes DA**. Gender Discrepancies in BBB Permeability Alterations with Age - A role for Estrogen & Metabolism, *Wright State University - Central Research Forum, WSU 4/10/2018 - 4/10/2018* (Poster).

Griggs RB, Yermakov LM, Drouet DE, Jaber JM, Nguyen DVM, **Susuki K**. The diabetes metabolite methylglyoxal disrupts the axon initial segment. , *15th Annual Neuroscience Day, Ohio Miami Valley Society for Neuroscience, Oxford, OH 5/25/2018 - 5/25/2018* (Poster).

Griggs RB, Yermakov LM, Drouet DE, Jaber JM, Nguyen DVM, **Susuki K**. The diabetes-related metabolite methylglyoxal induces the axon initial segment shortening. *Society for Neuroscience, San Diego, CA 11/3/2018 - 11/7/2018* (Poster).

Hanes AL, Koesters AG, **Engisch KL**. A rigorous statistical test supports a new model of homeostatic plasticity, *Organization for Computational Neuroscience, Seattle, WA 7/13/2018 - 7/18/2018* (Poster).

Harris M, Johnston B, Sulehria T, Williams S, and **Corbett AM**. A non-addictive 4 drug combination for Neuropathic Pain: Evidence for Functional Recovery and Corresponding Gene Expression and P2X<sub>4</sub> changes in Spinal Cord, *Ohio Miami Valley Society for Neuroscience 2018 Neuroscience Day, Miami University 5/25/2018 - 5/25/2018* (Poster).

Kamra K, Rakoczy RJ, Wilson RJA, **Wyatt CN**. The effect of osmotic mini-pump implantation on hypertension induced by chronic intermittent hypoxia, *Ohio Physiological Society, Cincinnati Ohio - (Poster)*.

Kamra K, Yi j-J, **Wyatt CN**, Rakoczy R. Synergistic Depression of Breathing due to Concurrent Ethanol and Opioid Use is Centrally Mediated, *Ohio Physiological Society Meeting, Cincinnati, OH - (Poster)*.

Parikh S, Huang L, Mukhopadhyay S, and **Mayes DA**. Modulating Glioblastoma Multiforma Cell Proliferation using Multi-Walled Carbon Nanotube Scaffolds, *Materials Science & Technology. Next Generation Biomaterials Session, Columbus, OH 10/15/2018 - 10/19/2018* (Platform).

Parikh S, Huang L, Mukhopadhyay S, **Mayes DA**. Wetability is a key property in Multi-Walled Carbon Nanotube Carpet Scaffold Modulation of Glioblastoma Multiforma Cell Growth., *Wright State University - College of Science and Math Festival of Research, WSU 10/26/2018 - 10/26/2018* (Poster).

Parkih S, Huang L, Mukhopadhyay S, **Mayes DA**. Multiwalled Carbon Nanotube Carpets as Scaffolds for Accelerated Neuronal Cell Growth. , Wright State University Central Research Forum, WSU 4/10/2018 - 4/10/2018 (Poster).

Pickrel A, **Brown TL**, Maxwell R, and Yaklic J. Molecular Genetic Analysis of Catechol-O-methyl transferase (COMT) in Pre-Eclampsia, Ob/Gyn Resident Research Day, Miami Valley Hospital, Dayton, OH 05/11/2018 - 05/11/2018 (Poster).

Pickrel A, Lo N, **Brown TL**, Maxwell R, and Yaklic J. Molecular Genetic Analysis of Catechol-O-methyl transferase (COMT) in Pre-Eclampsia, Armed Forces District 2018 Annual Meeting, ACOG, Honolulu, HI 09/23/2018 - 09/26/2018 (Poster).

Pickrel, AM, Goel KM, Rowland CM, Kaufman MR, Maxwell R, Yaklic J and **Brown TL**. Molecular Genetic Analysis of Catechol-O-methyl transferase (COMT) in Pre-Eclampsia, Boonshoft School of Medicine Central Research Forum, Dayton, OH 10/10/2018 - 10/10/2018 (Poster).

Sammeroff RB, Meiring ME, **Mayes DA**, and Clafflin DI. Glucocorticoid Receptor Density Concentrations in Amygdala and Hippocampus across Age and Sex in Sprague-Dawley Rats., Wright State University - College of Science and Math Festival of Research, WSU 10/26/2018 - 10/26/2018 (Poster).

Sulehria Y, Sharma N, Abushamma A, Johnson A, Gagle S, and **Corbett AM**. Drugs Modulating Stem Cell Proliferation in 11 month old rats show gender specificity, Ohio Miami Valley Society for Neuroscience 2018 Neuroscience Day, Miami University 5/25/2018 - 5/25/2018 (Poster).

Waker CA, Keoni C, Schurko B, **Brown TL** and Lober RM. Repression of Tumor Suppressor Genes in DIPG, Mayfield Foundation Annual Meeting, Cincinnati, OH 06/01/2018 - 06/01/2018 (Poster).

Waker CA, Keoni C, Schurko B, **Brown TL**, Lober, RM. Hypoxia-inducible factors regulate diffuse intrinsic pontine glioma growth in normoxic culture, International Symposium on Pediatric Neuro-Oncology, Denver, CO 07/03/2018 - 07/03/2018 (Poster).

Williams S, Sulehria T, Harris M, and **Corbett AM**. A Promising Non-addictive Drug Combination Treatment for Chronic Pain: with Gene Expression Differences in the Prefrontal Cortex at 45 days., Ohio Miami Valley Society for Neuroscience 2018 Neuroscience Day, Miami University 5/25/2018 - 5/25/2018 (Poster).

Yermakov LM, Drouet DE, Griggs RB, Elased KM, Sugimoto C, Williams MT, Vorhees DV, **Susuki K**. Structural changes in axon initial segment in diabetic brain. Society for Neuroscience, San Diego, CA 11/3/2018 - 11/7/2018 (Poster).

Zhelay T and **Kozak JA**. TRPM7 current inactivation: evidence for inside-out signaling. Biophysical Society 62nd Annual Meeting, San Francisco, CA (Poster).

## Platforms

**Elbasiouny SM**. Computer simulations identify a novel drug target for amyotrophic lateral sclerosis treatment, International Motoneuron Meeting, Boulder, Colorado 06/10/2018 - 06/14/2018 (Platform).

**Halm D**. Essential roles of the BK channel for colonic K secretion, Lake Cumberland Transport Group. Jamestown, Kentucky 6/17/2018 - 6/20/2019 (Platform).

## Significant presentations

**Bennett ES**. The Sweeter Side of the Heart - Reduced Myocyte Complex N-glycosylation Causes Dilated Cardiomyopathy, Wright State University, Department of Pharmacology & Toxicology, Dayton, OH, 2/14/2018.

**Brown TL**. Modeling Genetic Regulators of Pregnancy, Wright State University, Department of Neuroscience, Cell Biology and Physiology, Dayton, OH, 02/16/2018.

**Brown TL**. The Long and Winding Road, National Institutes of Health, NICHD. Center for Scientific Review. Endocrinology, Metabolism, Nutrition and Reproductive Sciences Integrated Review Group, Washington, DC, 09/21/2018.

**Elbasiouny S**. Biomechanics, Rehabilitation, Prosthetics, and Neuroscience, 9th Cairo International Biomedical Engineering Conference (CIBEC 2018), Novel Decoder Algorithms for Closed-loop Prosthetic Control, 12/20/2018 - 12/22/2018, Cairo, Egypt. (Session Chair)

**Elbasiouny S**. Novel Decoder Algorithms for Closed-loop Prosthetic Control , The 9th Cairo International Biomedical Engineering Conference (CIBEC 2018), Cairo, Egypt, 12/20/2018 - 12/22/2018.

**Engisch KL.** Misconceptions of Gender Differences in STEM: Lessons learned in the first semester, Department of Biological Sciences, WSU, Wright State University, 8/27/2018.

**Fyffe REW.** Control of Spinal Motoneuron Excitability, Neuroscience, Cell Biology and Physiology, Wright State University, Dayton, Ohio, 10/2/2018.

**Kraszpulska B.** Emotional impact of cadaver dissection on medical and dental students, Marian Osteopathic School of Medicine, Indianapolis, IN, 12/20/2018.

**Mayes D.** International Conference on Alzheimer's & Dementia, Gender Discrepancies in BBB Permeability Alterations with Age - A Role for Estrogen & Metabolism, 9/17/2018 - 9/19/2018, Paris, France. (Session Chair)

**Rich MM.** Treating weakness in critically ill patients, Weill Cornell Medicine, New York City, 4/12/2018 - 4/13/2018.

**Severt B.** Dayton Regional STEM School Career Internship, Dayton Regional STEM School, White Hall, Dayton, Ohio, 05/16/2018 - 06/21/2018.

**Severt B.** Edison State PTA Cadaver Lab Workshop, Edison State Physical Therapy Assistant Program, White Hall, Dayton, Ohio, 11/20/2018.

**Severt B.** Hands On Anatomy Lab for Pre-College Forensics, Wright State's Pre-College Forensic Science Camp, Wright State University, 07/18/2018.

**Severt B.** HAPI Lab: Human Anatomy and Physiology Interactive Lab Program, NCBP/CoSM Community Outreach, White Hall, Wright State University, 01/19/2018 - 04/20/2018.

**Severt B.** Jacob Coy Middle School A&P Day, Physiology is Phun Club, Jacob Coy Middle School, Dayton, Ohio, 05/04/2018.

**Severt B.** Sports Medicine Workshop for Miami University, Miami University Sports Medicine, Wright State University, Dayton, OH, 03/29/2018.

**Severt B.** STEMM: Exploring Human Anatomy, Exploring STEMM, Wright State University, 06/26/2018 - 07/03/2018.

**Susuki K.** Disruption of excitable axonal domains in diabetic brain., Central Research Forum, Wright State University., Dayton, OH, 10/18/2018.

**Susuki K.** Formation and disruption of functional domains along myelinated axons., Neuroscience Seminar at the Department of Neurology, Yokohama Brain and Spine Center, Yokohama, Japan, 7/18/2018.

**Susuki K.** Formation and disruption of functional domains in myelinated axons., Neuroscience Seminar, Department of Anatomy & Neurobiology, Virginia Commonwealth University School of Medicine, Richmond, VA, 11/16/2018.

**Susuki K.** Molecular mechanisms of node of Ranvier formation and disruption, Japan Neuroscience Society meeting, Kobe, Japan, 7/26/2018 - 7/29/2018.

**Wooley, D.** 61st Annual Biological Safety Conference, Session V: Polio, 10/15/2018 - 10/17/2019, Charleston, SC. (Session Chair)

**Wyatt CN.** Science of Opioid Addiction, Westheimer Peace Symposium, Wilmington, OH, 10/2/2018.

### **Consultantships**

T. Brown, to Apoptrol, LLC (Cell Death Inhibitors)

T. Brown, to Clintoria Williams, Assistant Professor, Wright State University, NCBP

T. Brown, to Courtney Sulentic, Associate Professor, Wright State University, Pharmacology & Toxicology

T. Brown, to David Natale, Assistant Professor, University of California San Diego, Reproductive Medicine

T. Brown, to Jianhua Shao, Professor, University of California San Diego, Pediatrics

T. Brown, to Kate Excoffin, Associate Professor, Wright State University, Biology

T. Brown, to Keiichiro Susuki, Assistant Professor, Wright State University NCBP

T. Brown, to Lucille Wrenshall, Professor, Wright State University, Surgery

T. Brown, to Rob Lober, Assistant Professor, Dayton Children's Medical Center

A. Corbett, to Soin Neuroscience Institute

B. Severt, to Cardiovascular Research Project for Dr. Sucusky's research students

B. Severt, to John Thomas' Science Olympiad Team

B. Severt, to Wright State University Boonshoft School of Medicine CAP Lab

D. Wooley, to Western Institutional Review Board/IBC Services

# 6 Summary of Service Activities

## Student advising/mentoring

Faculty Member	Student	Program	Role
Bennett	Austin Parrish	MS Anatomy	Mentor
Bigley	Fahad Alradi	MS Microbiology and Immunology	Mentor
	Jessica Hey	MS Microbiology and Immunology	Mentor
	Barry Graffagna	MS Microbiology and Immunology	Mentor
	Michael Castro	MS Microbiology and Immunology	Mentor
	Wedad Mudayfin	MS Microbiology and Immunology	Mentor
	Amani Alhazmi	MS Microbiology and Immunology	Mentor
	Tahirah Madkhal	MS Microbiology and Immunology	Mentor
	Olena Svitlova	MS Microbiology and Immunology	Mentor
	Sankhadip Bhadra	MS Microbiology and Immunology	Mentor
	Romel Murray	MS Microbiology and Immunology	Mentor
Yousef Nifaj Alanazi	MS Microbiology and Immunology	Mentor	
Muhannad Falah Alruwaili	MS Microbiology and Immunology	Mentor	
Brown	Christopher Waker	BMS	Committee
	Renee Albers	BMS	Mentor
	Courtney McCall	MD &BMS	Committee
	Michelle Axe	MD	Advisor
Corbett	Tahir Sulehria	BMS	Mentor
	Destiny Williams	LSAMP Undergraduate Sinclair	Mentor
	Rebecca Elliston	Undergraduate University of Kentucky	Mentor
	Blake Johnston	Undergraduate Wright State University	Mentor
	Amani Abushamma	Undergraduate Wright State University	Mentor
	Razia Johnson-Richardson	LSAMP Mentor	
	Angelo Campo	BMS	Committee
	Manasi Halurkar	MS Pharmacology/Toxicology	Committee
Michael Harris	MS Physiology & Neuroscience	Mentor	
Elbasiouny	Matthew Murphy	MS Anatomy	Mentor
	Sabrina Metzger	BMS	Mentor
	Morgan Highlander	College of Engineering and Computer Sci.	Mentor
	Joshua Harris	College of Engineering and Computer Sci.	Mentor
	Mohamed Mousa	College of Engineering and Computer Sci.	Mentor
Cody Wintermute	College of Engineering and Computer Sci.	Mentor	
Engisch	Venkataram Somisetty	MS Physiology and Neuroscience	Advisor/Committee
	Kajak Kamra	MS Physiology and Neuroscience	Advisor/Committee
	Pavani Beesetty	BMS	Committee
Halm	Megan Neuman	Undergradaute Honors Biology	Advisor
Kozak	Pavani Beesetty	BMS	Mentor
	Charles Luu	MS Physiology & Neuroscence	Mentor
	Jananie Rockwood	BMS	Mentor
	Ngocminh Troung	Undergraduate Honors	Mentor

Kraszpulska	Abdallah Rashad	MS Anatomy	Advisor
	Beedy Kerri	MS Anatomy	Advisor
	Sabina Chon	MS Anatomy	Advisor
	Breanna Dominguez	MS Anatomy	Advisor
	Geoffery Evans	MS Anatomy	Advisor
	Christopher Evola	MS Anatomy	Advisor
	Steven Graver	MS Anatomy	Advisor
	Michael Harris	MS Anatomy	Advisor
	Chelsea Rogers	MS Anatomy	Advisor
	Drew Saunders	MS Anatomy	Advisor
	Taylor Schumacher	MS Anatomy	Advisor
	Bahir Al-Anbara	MS Anatomy	Advisor
	Mohammed Alazmi	MS Anatomy	Advisor
	Asmaa Almajaaji	MS Anatomy	Advisor
	Amber Castellano	MS Anatomy	Advisor
	Chandi Chandiram	MS Anatomy	Advisor
	Cassidy Duckett	MS Anatomy	Advisor
	Andrew Forino	MS Anatomy	Advisor
	Graham Green	MS Anatomy	Advisor
	Shana Huntsburger	MS Anatomy	Advisor
	John Kearfott	MS Anatomy	Advisor
	Christine Kinstedt	MS Anatomy	Advisor
	Alayna Mellott	MS Anatomy	Advisor
	Robert Michael	MS Anatomy	Advisor
	Tejaswinai Reddy Nallanagulagari	MS Anatomy	Advisor
	Alexander Nguyen	MS Anatomy	Advisor
Parker Vaughan	MS Anatomy	Advisor	
Kenneth Ward	MS Anatomy	Advisor	
Joseph Williamitis	MS Anatomy	Advisor	
Kraszpulski	Sabina Chon	MS Anatomy	Mentor
	Ashley Roberts	Undergraduate Biology	Advisor
	Alex Bertke	MS Anatomy	Advisor
Ladle	Yiyun Dai	BMS	Mentor
	Marie Walters	MD & BMS	Mentor
	Kaitlyn Parkes	MS Anatomy	Mentor
	Nathan Keefer	Undergraduate	Mentor
	Stamatina Tolias	Undergraduate	Mentor
	Amanda Haines	BMS	Committee
	Christopher Waker	BMS	Committee
	Daniel Miranda	BMS	Committee
	Krushangi Shah	BMS	Committee
	Raji Santhanakrishnan	BMS	Committee
	Soham Parikh	BMS	Committee
Mayes	Soham Parikh	BMS	Mentor
	Tahir Sulehria	BMS	Committee
	Christopher Evola	MS Physiology and Neuroscience	Mentor
	Anu Balakeriahnan	MS	Committee
	Siham Abdulla	MS Pharmacology/Toxicology	Committee
	Brianna Dominguez	MS Anatomy	Committee
	Tanner Hudson	Undergraduate	Advisor
	Soham Dave	Undergraduate	Advisor
	Melinda Meiring	Undergraduate	Advisor
	Rael Sammroff	Undergraduate	Advisor
Jenna Shelby	MD & BMS	Advisor	
Walid Mari	MS	Advisor	
Nieder	Breanna Dominguez	MS Anatomy	Mentor
	Kaitlynn Parkes	MS Anatomy	Mentor

Rich	Kirsten Denman	Undergraduate	Advisor
	Sabrina Metzger	BMS	Committee
	Leo Yeomakov	BMS	Committee
	Daniel Miranda	BMS	Committee
	Elliott Hayden	MD & BMS	Committee
	Cristiana Draper	MD & BMS	Committee
	Marie Walters	MD & BMS	Committee
Severt	Rashid Abdallah	MS Anatomy	
	Phil Cohen	MS Anatomy	
	Nick Brown	MS Anatomy	
	Kevin Luton	MS Anatomy	
	Weston Shaw	MS Anatomy	
	Austin Parrish	MS Anatomy	
	Kaitlyn Parkes	MS Anatomy	
Sonner	Yiyn Dai	BMS	Committee
Susuki	Leonid Yermakov	MD & BMS	Advisor
	Domenica Drouet	MS Anatomy	Advisor
	Duc Van Minh Nguyen	Undergraduate Biology Honors	Advisor
	Melinda Meiring	Undergraduate Neuroscience Honors	Advisor
	Rael Sammeroff	Undergraduate Psychology Honors	Advisor
	Jeneane Jaber	Undergraduate Biomedical Engineering	Advisor
	Christiana Draper	MD & BMS	Committee
	Marie Walters	MD & BMS	Committee
	Unmesha Thanekar	MS Pharmacology & Toxicology	Committee
Dharminder Singh Langri	MS Biomedical Engineering	Committee	
Williams	Cindel Lynn Murta	Undergraduate	Advisor
	Tara-Yesomi Wenegieme	Undergraduate	Advisor
	Dylan Schindele	Undergraduate	Advisor
	Aston Waite	Undergraduate	Advisor
	Ryan Elam	Undergraduate	Advisor
	Kajal Kamra	MS Physiology and Neuroscience	Advisor
Wooley	Andreea Muntean	MS Microbiology and Immunology	Committee
	Fahad Alradi	MS Microbiology and Immunology	Committee
	Shayna Wallace	MS Microbiology and Immunology	Committee
	Yousef Alanazi	MS Microbiology and Immunology	Committee
	Tracy Attikple	MS Microbiology and Immunology	Mentor
	Yousef Alanazi	MS Microbiology and Immunology	Advisor
	Darlington Abrefa	MS Microbiology and Immunology	Advisor
	Nada Alganem	MS Microbiology and Immunology	Advisor
	Amani Alhazmi	MS Microbiology and Immunology	Advisor
	Rita Amediavor	MS Microbiology and Immunology	Advisor
	Anuranjani Balakrishnan	MS Microbiology and Immunology	Advisor
	Sankhadip Bhadra	MS Microbiology and Immunology	Advisor
	Miliben Bhakta	MS Microbiology and Immunology	Advisor
	Mark Calabro	MS Microbiology and Immunology	Advisor
	Mike Castro	MS Microbiology and Immunology	Advisor
	Cora Cox	MS Microbiology and Immunology	Advisor
	Barry Graffagna	MS Microbiology and Immunology	Advisor
	Jessica Hey	MS Microbiology and Immunology	Advisor
	Justine Kastle	MS Microbiology and Immunology	Advisor
	Aicha Kebe	MS Microbiology and Immunology	Advisor
	Wedad Mudayfin	MS Microbiology and Immunology	Advisor
	Ilesha Norman	MS Microbiology and Immunology	Advisor
	Christine Ratliff-Rang	MS Microbiology and Immunology	Advisor
	Olena Svitlova	MS Microbiology and Immunology	Advisor
	Amal Alkahlout	MS Biological Sciences	Committee
	Hend Alrabati	MS Biological Sciences	Committee

	James Readler	MD & BMS	Committee
Wyatt	Yoon Jae Yi	Undergraduate Psychology	Mentor
	Kajal Kamra	MS Physiology and Neuroscience	Mentor
	Ryan Rakoczy	BMS	Committee
	Brian Stogsdill	BMS	Committee
	Jenny Jurcsisn	BMS	Committee

## GRADUATING STUDENTS

### ANATOMY (COURSE)

Chon, Sabina  
Cohen, Phillip  
Dominguez, Breanna  
Graver, Steven  
Thoma, Marc

### ANATOMY (THESIS)

**Ciesa, Michael William.** *The Effect of Soleus Fatigue During Sidestep Cutting Maneuvers: Implications for the ACL.* Andrew Froehle

**Evola, Christopher Mark.** *Exploring Gender Differences Throughout Normal Rat Aging - A Role for Estrogen Signaling in the Brain.* **Debra Mayes**

**Perrin, Joshua David.** *The Influence of Static Stretching of Knee Flexors on Knee Biomechanics.* Andrew Froehle

### MICROBIOLOGY AND IMMUNOLOGY (THESIS)

**Graffagna, Barry.** *Virus Production and Cell Viability of HSV-1-infected Murine Keratinocytes (HEL-30) Co-cultured with Murine Macrophages (RAW 264.7).* **Nancy Bigley**

**Hey, Jessica Renee.** *The Effects of SOCS1, SOCS3 and HSV-1 Infection on Morphology, Cell Viability and Rab7 Expression in Polarized M1 and M2 Raw 264.7 Murine Macrophages.* **Nancy Bigley**

**Alanazi, Yousef Nifaj.** *HSV-1 Replication in different RAW 264.7 and J774.1 macrophage Phenotypes and Macrophage viability following HSV-1 infection.* **Nancy Bigley**

**Alradi, Fahad Mohammed.** *The Response of Unpolarized Macrophages (RAW 264.7)/Keratinocytes (PAM-212) Monolayer and Co-Culture System to Herpes Simplex Virus Type 1 (HSV-1) Replication during the Infection.* **Nancy Bigley**

**Alruwaili, Muhannad Falah.** *The Impact of Cytokines and HSV-1 on Rab5 Protein Expression, F-actin Cytoskeleton Rearrangement, and Cell Viability of Uninfected and Virus-Infected M0, M1, and M2 RAW264.7 Murine Macrophages.* **Nancy Bigley**

**Balakrishnan, Anuranjani.** *Effects of Voluntary Physical Rehabilitation on Neurogenesis In SVZ And Functional Recovery After Ischemic Stroke.* **Adrian Corbett**

### Committee membership/officer [indicate if committee chair]

#### Wright State University Boonshoft School of Medicine [or college name]

Admissions Committee (**G. Nieder, Full Member, B. Kraszpulska**)  
Balance, Control, and Regulation Steering Committee (**M. Matott, G. Nieder**)  
Basic Science Track Scholarly Projects Committee (**E. Bennett**)  
Beginning to End Steering Committee (**T. Brown, M. Matott**)



Bylaws Committee (**A. Kozak**)  
Faculty Curriculum Committee Assessment & Evaluation Subcommittee (**T. Brown**)  
Department of OB/Gyn Faculty Actions Committee (**T. Brown**)  
Executive Committee (**E. Bennett**)  
Faculty Curriculum Committee Assessment and Evaluation Subcommittee (**B. Kraszpuska**)  
Faculty Curriculum Committee, Co-Chair (**E. Bennett**)  
Faculty Curriculum Committee Integration Subcommittee (**M. Matott**)  
Faculty Promotions and Advancement Committee (**T. Brown, G. Nieder, M. Rich**)  
Foundations Curriculum Committee (**M. Matott, G. Nieder**)  
Human Architecture Steering Committee (**G. Nieder, B. Kraszpuska**)  
LCME Continuous Quality Improvement Steering Committee (**E. Bennett**)  
Origins II Steering Committee (**E. Bennett, M. Matott**)  
Peer Instruction Review Committee (**M. Matott**)  
Small Animal Physiology Core Director (**E. Bennett**)  
Staying Alive Steering Committee (**M. Matott**)  
Student Appeals Committee (**G. Nieder**)  
Task Force on Research (**E. Bennett**)  
Team Based Learning Review Group Committee (**M. Matott**)  
Wright Curriculum Histology Working Group (**G. Nieder**)  
Wright Curriculum Remediation/Repeat Task Force (**G. Nieder**)  
Wright Curriculum TBL Review Committee (**M. Matott, G. Nieder**)  
Wright Q Review Committee (**M. Matott**)

### **College of Science and Mathematics Committee Memberships**

Academic Policies Committee (**E. Bennett**)  
Chairs and Directors Council (**E. Bennett**)  
Graduate Committee (**K. Engisch**)  
Petitions Committee (**B. Severt**)  
Promotion and Tenure Committee (**E. Brown, G. Nieder**)  
Scholarship Committee (**P. Sonner**)  
Steering Committee (**D. Wooley**)  
Undergraduate Curriculum Committee (**P. Sonner**)

### **Biomedical Sciences Committee Memberships**

Academic Policies Committee (**D. Ladle, K. Engisch, E. Bennett**)  
Admission Committee (**K. Susuki**)  
Biomedical Sciences Ph.D. Program Curriculum Committee (**T. Brown**)  
Dissertation Committee (**P. Sonner**)  
Member of the BMS program admission committee (**S. Elbasiouny**)  
Nominating Committee (**K. Susuki, A. Kozak**)  
BMS Student Association (BMSS) (**A. Kozak**)

### **Neuroscience, Cell Biology and Physiology Committee Memberships**

Advisory Committee (**A. Corbett, Chair, B. Kraszpuska, D. Ladle, G. Nieder, P. Sonner**)  
Annual Evaluation and Assessment Subcommittee (**B. Kraszpuska Chair, N. Bigley, A. Corbett, D. Ladle**)  
Faculty Search Committee (**T. Brown, Chair**)  
Master's Program Revision Committee (**K. Engisch, B. Kraszpuska, M. Kraszpuski, G. Nieder, M. Matott, B. Severt, N. Ritucci, A. Corbett**)  
Promotion and Tenure Committee (**A. Corbett Chair, D. Halm, B. Kraszpuska, A. Kozak, D. Ladle**)

### **College of Engineering and Computer Science**

BME Program Committee (**S. Elbasiouny**)  
Master's Program in Neuroengineering (**S. Elbasiouny Chair**)

### **Wright State University**

Academic Integrity Hearing Panel (**G. Nieder**)  
Academic Mediation Committee (**N. Ritucci**)

Academic Reorganization Committee (**N. Bigley**)  
 Commencement Committee (**B. Severt**)  
 Graduate Policies Committee of the Senate (**K. Engisch**)  
 Hearing Board Tenure Removal Case (**A. Corbett**)  
 Parking Appeals Committee (**D. Wooley, Chair**)  
 M.S. Program in Neuroengineering at the College of Engineering and Computer Science (**S. Elbasiouny, Chair**)  
 Commencement Committee (**B. Severt**)  
 Faculty Governance, Buildings and Grounds Committee (**D. Wooley Chair**)  
 Faculty Governance, Faculty Budget Priorities Committee (**D. Wooley**)  
 Faculty Governance, Faculty Senate Executive Committee (**D. Wooley**)  
 Faculty Senate (**B. Severt, P. Sonner**)  
 Faculty Senator Representing COSM, 2015-present (**D. Wooley**)  
 Graduate Academic Policies Committee (**G. Nieder**)  
 Graduate Council (**K. Engisch**)  
 Institutional Animal Care and Use Committee (**A. Corbett, Chair, D. Ladle**)  
 Institutional Biosafety Committee (**D. Ladle**)  
 Let's Talk Forum on Wright State Research Institute (**E. Bennett**)  
 Outside Interest Committee (**D. Mayes**)  
 Quadrennial Review Committee (**P. Sonner**)  
 Radiation Safety Committee: Vice Chair (**A. Corbett**)  
 Scholarship and Sponsored Research Committee (**T. Brown, Chair**)  
 University, Faculty Budget Priorities Committee of the Faculty Senate (**E. Bennett**)  
 University Curriculum Committee (**P. Sonner**)  
 University's Student Conduct Panel (**B. Severt**)

## National

American Biological Safety Association Scientific Program Committee (**D. Wooley**)  
 American Physiological Society – Council on the Kidney in Cardiovascular Disease (KCVD) Leadership Committee (**C. Williams**)  
 American Physiological Society – Renal Section Committee (**C. Williams**)  
 American Society for Neurochemistry (ASN) YIEE Award Committee (**D. Mayes**)  
 Biological Agent Containment Working Group – Centers for Disease Control and Prevention (**D. Wooley**)  
 Board of Scientific Counselors for the Centers for Disease Control and Prevention (**D. Wooley**)  
 International Alzheimer's & Dementia Conference Organizing Committee (**D. Mayes**)  
 NIH Recombinant DNA Advisory Committee (**D. Wooley**)  
 NIH Pregnancy and Neonatology Study Section (**T. Brown**)  
 NIH Center for Scientific Review - Anonymous Grant Review Study Section (**T. Brown**)  
 NIH-Special Emphasis Panel Study Section -2018/10 ZRG1 EMNR-W (55) (**T. Brown**)  
 NIH/NICHD-Translation Centers for Reproduction Research Study Section-ZHD1 DSR-L (P50) (**T. Brown**)  
 Human Anatomy and Physiology Society Committee – Cadaver Usage (**B. Kraszpulska, B. Severt**)

## Other

ALS Association (**S. Elbasiouny**)

# 7

## Patient Care Summary

Mark M. Rich, M.D., Ph.D. – 180 ambulatory visits in 2018

# 8

## Honors and awards

### **FACULTY HONORS/AWARDS**

- Excellence in Teaching: The National Society of Leadership and Success (**K. Englisch**)
- Panhellenic Women's Award for Outstanding Female Faculty (**B. Severt**)
- Nominee for President's Award for NTE Faculty: Outstanding Teaching (**B. Severt**)
- College of Science & Mathematics Faculty Excellence Award - Spirit of Innovation for HAPI Lab (**B. Severt**)
- College of Science & Mathematics Faculty Excellence Award - Spirit of Innovation for NeuroLab (**P. Sonner**)

### **POSTDOCTORAL SCHOLAR HONORS/AWARDS**

- 2018 Society for Neuroscience Trainee Prof. Development Award (**Ryan Griggs – mentor, K. Susuki**)
- Best Poster Award for Postdoctoral Fellows and Research Assistants in 15th Annual Neuroscience Day, Ohio Miami Valley Soc. for Neuroscience, Oxford, OH, USA, May 25th 2018 (**Ryan Griggs – mentor, K. Susuki**)

### **GRADUATE STUDENT/POSTDOCTORAL SCHOLAR HONORS/AWARDS**

- BSOM Academy of Medicine, Medical Student Research Award (**Leonid Yermakov – mentor, K. Susuki**)
- 2018 Society for Neuroscience Trainee Prof. Development Award (**Leonid Yermakov – mentor, K. Susuki**)
- 2018 Organization for Computational Neuroscience Travel Award (**Amanda Hanes – mentor, K. Englisch**)

### **UNDERGRADUATE STUDENT HONORS/AWARDS**

- Biology Honors Program Research Project (**Megan Neumann – mentor, D. Halm**)
- Considine Scholarship (**Melinda Meiring**)
- Neil Acharya Memorial Scholarship (**Madison Jewell**)
- Nelson Faerber Scholarship (**Mabel berg**)
- Rise.Shine Scholarship (**Madison Jewell**)
- Robert G. Chollar Scholarship (**Leila Jaber**)
- Sarah Harris Scholarship (**Asha Talib**)
- William R. James Scholarship (**Leila Jaber**)
- Women in Science Giving Circle (**Abigail Chumley**)

# 9

## Hosted events

### **Neuroscience, Cell Biology and Physiology Seminars**

February 2, 2018 – David Ladle, Ph.D., Wright State University, Dayton, OH, Getting the right feedback: the development and maintenance of the stretch reflex.

February 16, 2018 – Thomas Brown, Ph.D., Wright State University, Dayton, OH, Modeling Genetic Regulators of Pregnancy.

March 9, 2018 – Elena Oancea, Ph.D., Brown University, Providence, RI, Ion channels critical for pigmentation.

March 23, 2018 – Jeff Travers, M.D., Ph.D, Wright State University, Dayton, OH, Platelet-activating factor as an effector for environmental stressors.

April 6, 2018 – Robert Lober, M.D., Ph.D., Wright State University, Boonshoft School of Medicine, Dayton, OH, Role of repressed tumor suppressor genes in DIPG treatment resistance.

April 13, 2018 – Peter Wenner, Ph.D., Emory University, School of Medicine, Atlanta, GA, The importance of spontaneous vesicle release in homeostatic plasticity.

April 20, 2018 – Mauricio Di Fulvio, Ph.D., Wright State University, Boonshoft School of Medicine, Dayton, OH, Borrowing neuronal genes to better understand insulin secretion.

September 7, 2018 – Taku Kaitsuka, Ph.D., Kumamoto University, Kyushu, Japan/New York University, New York, NY, Regulation of stress response by brain-specific isoform of translation elongation factor eEF1B.

September 12, 2018 – Robert Lober, M.D., Ph.D., Wright State University, Boonshoft School of Medicine, Dayton, OH, Role of repressed tumor suppressor genes in DIPG treatment resistance.

October 5, 2018 – Robert Fyffe, Ph.D., Wright State University, Dayton, OH, Control of Spinal Motoneuron Excitability.

October 12, 2018 – Soumen Paul, Ph.D., University of Kansas, Kansas City, KS, Molecular control of trophoblast cell lineage development.

October 19, 2018 – Dawn Blitz, Ph.D., Miami University, Oxford, OH, State-dependent regulation of rhythmic motor system.

# 10

## Other information

### Outreach programs

HAPI Lab (**T. Brown, B. Kraszpulska, B. Severt**)

Horizons in Medicine (**G. Nieder**)

Neuro Lab (**T. Brown, C. Wyatt, K. Engisch, P. Sonner**)

STEMM: Exploring Human Anatomy an Interactive Anatomy Lab Experience (**B. Kraszpulska, B. Severt**)

Women in Science Giving Circle (**A. Corbett, K. Engisch, B. Kraszpulska, B. Severt**)

Destination Imagination (**D. Mayes**)

Special Interest Program – Exposing High School to Neuroengineering Research (**S. Elbasiouny**)

Anatomy Lab Tour, Engineering Summer Camp (**B. Severt**)

### Student clubs and activities

Operation Smile Wright State University – WSU chapter of Operation Smile which works to provide life-saving cleft palate and cleft lip surgeries to children in need throughout the world. (**N. Ritucci**)

Ohio Summer Institute (**N. Ritucci, Co-Director**)

College of Science and Math Anatomy Club, (**B. Kraszpulska, Advisor**)

Boonshoft School of Medicine Gastronomy Club (**B. Kraszpulska, Advisor**)