Department of Neuroscience, Cell Biology and Physiology

Annual Report

2014

Timothy C. Cope, Ph.D.
Professor

For the period including
January 1, 2014 — December 31, 2014
Statement from the Chair

The Department of Neuroscience, Cell Biology, and Physiology (NCBP) at Wright State University integrates scientists and clinicians with basic, translational, and clinical expertise to examine fundamental principles and cutting edge technologies to address today's most critical health issues. We are dedicated to sustaining excellence in research, teaching, and service to provide the very best in undergraduate, graduate, medical, and postdoctoral education.

NCBP is constituted as a matrix department, having membership in both Boonshoft School of Medicine (BSOM) and College of Science and Mathematics (COSM). In 2014, we have 23 faculty members with primary appointments: 6 Full Professors, 10 Associate Professors, 3 Assistant Professors, 2 Lecturers, and 2 Instructors. All are variously engaged in scholarship, teaching, and service.

Research/Scholarship: In 2014, NCBP continued as a national leader in significant and high profile areas of biomedical research investigating wide ranging topics, including (but not restricted to):

- **Neuroscience**: development, adaptability, degeneration, regeneration, rehabilitation of neurons, neural circuits, and synapses as they impact on sensory and motor behaviors
- **Cell Biology**: developmental disorders of placenta (preeclampsia, placental insufficiency, preterm birth); immunomodulation (innate, adaptive, and viral); cell signaling and signal transduction
- **Physiology**: epithelial transport in gastrointestinal tract; cellular and molecular mechanism of respiratory modulation; biophysical and molecular mechanisms of exocytosis
- **Education**: computerized anatomical dissection manual; outcome measures of active learning in medical gross anatomy

Our success in 2014 with our scientific activities is reflected in:

- Publication of 17 peer-reviewed papers; 25 oral presentations and invited talks; membership on 15 editorial boards; service on 10 extramural study sections; consultants for 10 scientific, academic, corporate, or medical expert organizations; officers 2 national professional organizations.
- Extramural Grant Funding: awards ca. $1,623,680.00 dollars in direct research grant funding (a 8.1% increase compared 2013), which translated into more than $603,915.00 in indirect funds.

Education: In 2014, NCBP continued to make a major contribution undergraduate medical education, especially in Biennium I (ca. 985 contact hours; directors for 6 courses). We are also heavily engaged in classroom teaching in COSM (ca. 288 contact hours for undergraduates; 722 contact hours for graduates – Master’s degree and doctoral degree programs).

Another major commitment in time, effort, and quality is given to student training in our laboratories. Our faculty directed 11 undergraduate student research programs, 2 PhD theses, 3 Anatomy Master’s theses, 10 Anatomy non-theses, 1 Anatomy certificate and 3 Physiology and Neuroscience theses.

Service: In 2014, NCBP faculty were major participants in committees charged with driving operations essential to administrative functions in NCBP, COSM, BSOM, and Wright State University at large. Most relevant to BSOM was our participation in Chair search committees, medical school admissions, promotion and tenure committees, Faculty Curriculum Committee and Task Force subcommittees, Institutional Animal Care and Use Committee.

Outreach: The NCBP department continued to provide outreach programs and support student clubs which include Streams; Women in Science Giving Circle, Horizons in Medicine, EMS Cadaver Anatomy Procedure Lab, STEMM, Science Olympiad, Operation Smile WSU, and HAPI Lab (Human Anatomy and Physiology Instruction).

In summary, the Department of Neuroscience, Cell Biology, and Physiology continues to be very productive, recognized, and proficient in our research, scholarship, and educational teaching missions and we look forward to the future successes by our faculty in the coming year.
## Programs/Divisions

<table>
<thead>
<tr>
<th>Name of Division or Program</th>
<th>Director</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroscience Institute</td>
<td>Timothy, Ph.D., Director</td>
<td>2010 - Present</td>
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</tbody>
</table>

## Fully Affiliated Faculty  (may be the same as #2 above for some depts)

<table>
<thead>
<tr>
<th>Name and Academic Position</th>
<th>Clinical Interests</th>
<th>Research Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nancy Bigley, Ph.D., Full Professor</td>
<td></td>
<td>Herpes simplex virus, interferons and signaling pathways</td>
</tr>
<tr>
<td>Thomas Brown, Ph.D., Full Professor</td>
<td></td>
<td>Cell death; Differential and development</td>
</tr>
<tr>
<td>Timothy Cope, Ph.D., Full Professor</td>
<td></td>
<td>Spinal cord synaptic plasticity; Motor systems</td>
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<tr>
<td>Adrian Corbett, Ph.D., Associate Professor</td>
<td></td>
<td>Excitation-concentration coupling; Sodium channel subtypes; Brain neurogenesis</td>
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<tr>
<td>Sherif Elbasiouny, Ph.D., Assistant Professor</td>
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<td>Cellular mechanisms regulating neuronal excitability and motor system output</td>
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<tr>
<td>Kathrin Engisch, Ph.D., Associate Professor</td>
<td></td>
<td>Neurotransmitter release</td>
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<tr>
<td>Robert Fyffe, Ph.D., Full Professor</td>
<td></td>
<td>Cellular and synaptic neuroscience</td>
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<tr>
<td>Melvyn Goldfinger, Ph.D., Associate Professor</td>
<td></td>
<td>Theoretical neuroscience</td>
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<tr>
<td>Dan Halm, Ph.D., Associate Professor</td>
<td></td>
<td>Epithelial physiology; Secretory signal transduction</td>
</tr>
<tr>
<td>J. Ashot Kozak, Ph.D., Associate Professor</td>
<td></td>
<td>Ion transport pathways in T lymphocytes, Calcium signaling</td>
</tr>
<tr>
<td>Barbara Kraszpul ska, Ph.D., Associate Professor</td>
<td></td>
<td>Medical and graduate education; Gross Anatomy</td>
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<tr>
<td>Michal Kraszpulski, Ph.D., Instructor</td>
<td></td>
<td>Graduate education,</td>
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<tr>
<td>Name and Academic Position</td>
<td>Clinical Interests</td>
<td>Research Interests</td>
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<tr>
<td>David Ladle, Ph.D., Associate Professor</td>
<td></td>
<td>Neuroscience</td>
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<tr>
<td>Debra Mayes, Ph.D., Assistant Professor</td>
<td></td>
<td>Development of spinal cord reflex circuits</td>
</tr>
<tr>
<td>Dan Miska, M.S., Lecturer</td>
<td></td>
<td>Undergraduate and Medical education; Anatomy</td>
</tr>
<tr>
<td>Gary Nieder, Ph.D., Full Professor</td>
<td></td>
<td>Medical and graduate education; Educational technology</td>
</tr>
<tr>
<td>Robert Putnam, Ph.D., Full Professor</td>
<td></td>
<td>Central respiratory control; Cell signaling; Neuroscience</td>
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<tr>
<td>Larry Ream, Ph.D., Associate Professor</td>
<td></td>
<td>Medical and graduate education; Histology</td>
</tr>
<tr>
<td>Mark Rich, M.D., Ph.D., Full Professor</td>
<td>Neurology</td>
<td>Synaptic plasticity; Critical illness myopathy</td>
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<tr>
<td>Nick Ritucci, Ph.D., Lecturer</td>
<td></td>
<td>Undergraduate and Medical education; Physiology</td>
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<tr>
<td>Bridgett Severt, M.S., Lecturer</td>
<td></td>
<td>Undergraduate education; Anatomy</td>
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<tr>
<td>Patrick Sonner, Ph.D., Instructor</td>
<td></td>
<td>Undergraduate and Graduate education; Neuroscience</td>
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<tr>
<td>Keiichiro Susuki, M.D., Ph.D., Assistant Professor</td>
<td></td>
<td>Virology, HIV-1, AIDS; Biosafety; Biodefense</td>
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<tr>
<td>Dawn Wooley, Ph.D., Associate Professor</td>
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<tr>
<td>Christopher Wyatt, Ph.D., Associate Professor</td>
<td></td>
<td>Cellular mechanisms of oxygen sensing</td>
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### Teaching

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

- ANT 2100 Human Anatomy & Physiology I
- ANT 2100L Human Anatomy & Physiology I Lab
- ANT 2120 Human Anatomy & Physiology II
- ANT 2120L Human Anatomy & 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
ANT 5100 Advanced Human Structure & Function I
ANT 5100L Advanced Human Structure & Function I Lab
ANT 5120 Advanced Human Structure & Function II
ANT 5120L Advanced Human Structure & Function II Lab
NCP 3330 Neuroscience Today
P&N 4420 Introductory Neurophysiology
P&N 4880 Independent Reading – Physiology
P&N 4990 Special Problems in Physiology
M&I 4260 Immunology
M&I 4310 Virology
M&I 4750 Pathogenic Mechanisms
BIO 4990 Special Problems in Biology

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

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 8110 Comprehensive Anatomy
ANT 8500 Scholarly Project
ANT 8600 Principles of Biomedical Research
ANT 8990 Anatomy Research
P&N 6100 Human Physiology
P&N 6420 Introductory Neurophysiology
P&N 6500 Glial Cell Physiology
P&N 6690 Quantitative Aspects of Membrane Transport
P&N 6990 Special Problems in Physiology
P&N 7010 Selected Topics in Physiology
P&N 7010 Breakthroughs in Neuroscience & Physiology
P&N 7220 Ion Channels
P&N 7750 Neuroscience & Physiology
P&N 7760 Intercellular Communications
P&N 7920 Mechanisms of Cell Death
P&N 8000 Physiology Seminar
P&N 8080 Neuroscience Seminar
P&N 8600 Principles in Biomedical Research
P&N 8990 Physiology Research
M&I 6750 Pathogenic Mechanisms
M&I 7260 Immunology
M&I 7310 Virology
M&I 7770 Gene Therapy
M&I 8000 Microbiology & Immunology Seminar
PTX 7300 Cellular Pharmacology & Toxicology

Undergraduate medical education [medical school]
SMD 510 Human Structure
SMD 543 Cardiovascular
SMD 551 Hematology
SMD 552 Respiratory
SMD 553 Digestive
SMD 554 Renal
SMD 560 Medical Neuroscience
SMD 561 Endocrine
SMD 563 Musculoskeletal/Integument
SMD 572 Cells, Tissue and Organ Systems
MED 800 Student Initiated Elective (Involved producing multimedia and assembling a web-based tutorial on heart sound)

Graduate medical education [residents, fellows]
Muscles, Tendons and Ligaments, BSOM Orthopaedic Residents, Miami Valley Hospital, Dayton, OH, 3/27/2014. (L. Ream)
Prolonged Expression of Placental-Specific HIF1 alpha Alters Trophoblast Differentiation and Triggers Pregnancy-Induced Hypertension, University of Cincinnati, Cincinnati, OH, 11/20/2014 (T. Brown)

Continuing medical education [grand rounds, seminars]
Linking Clinicians and Basic Scientists, Wright State University, Dayton, OH 12/3/2014 (T. Cope)
Second Annual Update in Pediatric Neurology, Dayton Children’s Hospital 10/18/14 (T. Cope)
Third Annual Wright State University & Premier Health Neuroscience Institute Symposium, Frontiers in Epilepsy, Sinclair College, Dayton, OH 10/15/2014 (T. Cope)

Other
2014 Central Research Forum, Wright State University, Dayton, OH 10/16/14 (T. Cope)
Ohio Miami Valley, Society for Neuroscience, Wright State University, Dayton, OH 5/16/2014 (T. Cope)
Encoding Sensory-Motor Feedback in Spinal Circuits, Georgia Institute of Technology, Atlanta, GA 4/2/2014 (T. Cope)

Peripheral Reconnection/Central Disconnection, Limitations of Peripheral Nerve Repair, The University of Miami, Miami, FL, 3/5/2014 (T. Cope)


Insights from Chemotherapy induced Damage of Spindle Encoding, A Special Symposium sponsored by the Physiology Society, University of Durham, United Kingdom, 9/4/2014 (T. Cope)

Modulation of Motoneuron Firing by Recurrent Inhibition in Adult Rat in Vivo, International Motoneuron Meeting, Halifax, Canada, 6/16/2014 – 6/19/2014 (T. Cope)


Encoding Sensory-Motor Feedback in Spinal Circuits, Georgia Institute of Technology, Atlanta, GA, 4/2/2014 (T. Cope)

Memory & Cognitive Center Collaboration Meeting, Dayton, OH 3/14/2014 (T. Cope)

Synaptic Function: Effects of the Nerve Injury Repair and Altered Activity, PPG Retreat, Dayton, OH 2/17/2014 (T. Cope)

The neuro engineering, degeneration, and rehabilitation lab, Dept. of Biomedical Engineering, Cairo University, Egypt, 12/13/14 (S. Elbasiouny)

The neuro engineering, degeneration, and rehabilitation lab, The neuro engineering, degeneration, and rehabilitation lab, 12/12/2014 (S. Elbasiouny)

Transforming Science Education at Wright State University, Multicultural Issues in the Curriculum Symposium, Wright State University, Dayton, OH 10/25/2014 (K. Engisch)

Secretory physiology of the intestine, Department of Human Biology, Kettering College, Kettering, OH 3/20/2014 (D. Halm)

Nf1 Loss and Ras Hyperactivation in Oligodendrocytes Induce NOS-Driven Defects in Myelin and Vasculature, Ohio Valley Chapter for Society for Neuroscience, Wright State University, Dayton OH, 2/21/2014 (D. Mayes)


Oligodendrocyte Mitochondrial Reactive Oxygen can cause BBB Disruption, Statin Island, NY (D. Mayes)

Metabolic Regulation of the BBB, The Department of Biology, Clemson University, Clemson SC 2/27/2014 – 2/28/2014 (D. Mayes)

Modulation of the Blood Brain Barrier, Wright State University Department of Biochemistry, Wright State University, Dayton, OH 4/16/2014 (D. Mayes)

Cadaver Workshop Student Sports Medicine Workshop, Wright State University, Dayton, OH 10/17/2014 (B. Severt)

AGP Memorial Service Speech, Anatomical Gift Program, Wright State University, Dayton, OH 9/14/2014 (B. Severt)

First Lab Experience Workshop, Wright State University Honors Dorm Pre-health Students, Wright State University, Dayton, OH 11/7/2014 (B. Severt)

Academic Search Committees and How to Impress Them, Ohio Miami Valley, Society for Neuroscience, Wright State University, Dayton, OH 5/16/2014 (C. Wyatt)
Scholarly Activity

Funded grants [List PI(s), grant title, funding source, amount of award, and dates of award. Please list each grant only once. Identify student & resident authors, i.e., *=student author **=resident/fellow]

Extramural - Active, Dr. Cope, National Institutes of Health, Reduced Motoneuron Excitability in Sepsis, P.I. Mark Rich, M.D., Ph.D., (07/01/2014 to 6/13/2019) Total $1171000, Direct Current Year $1171000.

Extramural - Active, Dr. Cope, National Institute of Health, Synaptic Function: Effects of the Nerve Injury Repair, and Altered Activity, P.I. Timothy Cope, Ph.D., (03/01/2013 to 02/28/2018) Total $3536750, Direct Current Year $3536750.

Extramural - Active, Dr. Ladle, NIH, National Institute of Neurological Disorders and Stroke, Mechanisms of reciprocal inhibition development, P.I. David R. Ladle, (09/01/2011 to 08/31/2016) Total $319375, Direct Current Year $218750, Indirect Current Year $100625, Total cost for entire grant period $1596875, 33% salary for Dr. Ladle.

Extramural - Active, Dr. Wooley, NIH/NIAID, Evolution of AAV Vectors for Anti-HIV Gene Therapy, P.I. Katherine Excoffon, (07/01/2011 to 06/30/2014) Total $0, Direct Current Year $0, Indirect Current Year $0, Total cost for entire grant period $411387, 5% salary for Dr. Wooley.

Extramural - Active, Dr. Wooley, American Biological Safety Association/Griffin Fund, Shedding of virus from animals infected with viral vectors, P.I. Dawn Wooley, (12/21/2009 to 12/22/2014) Total $0, Direct Current Year $0, Indirect Current Year $0, Total cost for entire grant period $20000.

Extramural - Active, Dr. Wyatt, NIH, AMP-activated protein kinase and oxygen-sensing, P.I. Christopher Wyatt, (01/01/2011 to 11/30/2014) Total $328500, Direct Current Year $225000, Indirect Current Year $103500, Total cost for entire grant period $1301333, 50% salary for Dr. Wyatt.

Internal - Active, Dr. Corbett, BSOM Translation Grant, iTRAQ Proteomics to Identify Predictive Biomarkers of Stroke after Subarachnoid Hemorrhage, P.I. Adrian M. Corbett, (07/01/2014 to 06/30/2016) Total $43582, Direct Current Year $43582, Total cost for entire grant period $43582.

Internal - Active, Dr. Halm, BSOM Seed Grant, Physiological actions of the BK channel, P.I. Dan Halm, (7/1/2013 to 06/30/2014) Total $12500, Direct Current Year $12500, Total cost for entire grant period $12500.

R01 - Active, Dr. Brown, NIH (NICHD), HIF-1 Alpha Regulation of Trophoblast Differentiation in Vivo, P.I. Thomas L Brown, (06/01/2011 to 03/28/2016) Total $302895, Direct Current Year $207462, Indirect Current Year $95433, Total cost for entire grant period $302895, 50% salary for Dr. Brown.

Extramural - Active Extension, Dr. Brown, NIH, Protection against Sarin-induced neurotoxicity via an in vivo caspase inhibitor, P.I. Cool, Submitted , Requested Total $ (Active Extension).

Publications [List each publication only once; do not list manuscripts in press. List only publications from the year covered by this report.]

Papers in refereed journals


Bigley, NJ. Complexity of interferon gamma interactions with HSV-1, Frontiers in Immunotherapies and Vaccines, 5, Article 15, 2014.


Koesters A, Engisch KL, and Rich MM. 'Decreased cardiac excitability secondary to reduction of sodium current may be a significant contributor to reduced contractility in a rat model of sepsis, Critical Care, 26, R54, 2014.

Matott, Ciarlone, MP, Putnam RW and Dean JB. Normobaric hyperoxia (95% O2) stimulates CO2-sensitive and CO2-insensitive neurons in the caudal solitary complex of rat medullary tissue slices maintained in 40% O2, Neuroscience, 270, 98-122, 2014.


Significant presentations [e.g., to academic societies, medical schools and national professional societies.]

University of Cincinnati College of Medicine, Department of Pathology and Laboratory Medicine and Metabolic Diseases Institute, 11/20/2014, Cincinnati, OH (T. Brown)

Linking Clinicians and Basic Scientists, Wright State University, 12/3/2014, Dayton, OH (T. Cope)

Second Annual Update in Pediatric Neurology, Dayton, OH (T. Cope)

2014 Central Research Forum, Wright State University, 10/16/2014 Dayton, OH (T. Cope)

Third Annual Wright State University & Premier Health Neuroscience Institute Symposium, Frontiers in Epilepsy, Dayton, OH (T. Cope)

Georgia Institute of Technology, Encoding Sensory-Motor Feedback in Spinal Circuits, 4/2/2014, Atlanta, GA (T. Cope)

Peripheral Reconnection/Central Disconnection, Limitations of Peripheral Nerve Repair, The University of Miami, 3/5/2014, Miami, FL (T. Cope)

A Special Symposium sponsored by the Physiology Society, University of Durham, 9/4/2014, United Kingdom (T. Cope)

International Motoneuron Meeting, 6/16/2014-6/19/2014, Halifax, Canada (T. Cope)


Memory & Cognitive Center Collaboration Meeting, 3/14/2014 (T. Cope)

Multicultural Issues in the Curriculum Symposium, Transforming Science Education at Wright State University, Dayton, OH (K. Engisch)

Kettering College, Department of Human Biology, Secretory Physiology of the Intestine, 3/20/2014 Kettering, Oh (D. Halm)

Ohio Miami Valley, Society for Neuroscience (OMV SfN), Academic Search Committees and How to Impress Them, 5/16/2014, Dayton, OH (C. Wyatt)

Cairo University Department of Biomedical Engineering, 12/13/2014, Cairo, Egypt (S. Elbasiouny)

Nile University Department of Neuro Engineering, Degeneration and Rehabilitation Laboratory, 12/12/2014, Giza, Egypt (S. Elbasiouny)

Ohio Miami Valley, Society for Neuroscience (OMV SfN), Neuroscience, Day, 2/21/2014, Dayton, OH (D. Mayes)

The Department of Biology; Clemson University, 2/27/2014, Charleston, SC (D. Mayes)

Consultantships [sponsor activity]

Dr. Brown to Adrian Corbett, Wright State University

Dr. Brown to Apoptrol, LLC

Dr. Brown to Bubalo Rotman PLC

Dr. Brown to Courtney Sulentic, Wright State University

Dr. Brown to Littlepage Booth PLC

Dr. Brown to Maria Scott, University of Western Michigan

Dr. Brown to Michael Fant, University South Florida

Dr. Halm to Roger T. Worrell

Dr. Wooley to Western Institutional Review Board/IBC Services

Dr. Cope to Grant Collaboration with Dr. Huub Maas, University of Amsterdam
Other recognition [e.g. editorships, reviewer awards]

Editorial Board Memberships

American Journal of Physiology (A. Kozak)
American Journal of Physiology, Cell Physiology (T. Brown, D. Halm)
Experimental Brain Research (T. Cope)
Experimental Neurology (M. Rich)
Journal of Applied Physiology (R. Putnam)
Journal of Comparative Neurology (T. Cope)
Journal of Developmental Biology (T. Brown)
Journal of Neurophysiology (T. Cope)
Journal of Neuroscience (T. Cope)
Journal of Physiology (London) (T. Cope)
Neurorehabilitation & Neural Repair (T. Cope)
Physiological Reports (R. Putnam)
The Journal of Cell Death (T. Brown)
The Open Stem Cell Journal (T. Brown)
Trends in Neuroscience (T. Cope)

Granting agency study section memberships

Boonshoft School of Medicine Research Committee (T. Cope)
Cancer Research Associates (D. Wooley)
National Institutes of Health - NICHD Pregnancy and Neonatology Section (T. Brown)
National Institutes of Health (C. Wyatt)
National Institutes of Health CSR, NDPR Study Section (D. Ladle)
National Institutes of Health WPNRC Special Emphasis Panel (T. Brown)
NIH CSR, NCF Study Section (D. Ladle)
Welcome Trust (D. Halm)
Wright State University College of Science and Math (T. Brown)
Offices held in national professional organizations

Ohio Physiological Society (Chapter of American Physiological Society), Treasurer (D. Halm)

Scientific Program Committee, American Biological Safety Association, Chair (D. Wooley)

Outreach programs

Cadaver Anatomy Procedure (CAP) Laboratory (D. Miska)

Horizons in Medicine (G. Nieder)

STEMM: Exploring Human Anatomy An Interactive Anatomy Lab Experience (L. Ream, B. Kraszpulska)

STREAMS. This program is funded by the National Institutes of Health to encourage members of under-represented minority groups and students with disabilities to choose careers in cardiovascular-related research. R. Putnam and S. Elbasiousny mentored students and R. Putnam is a program admissions committee member.

Women in Science Giving Circle (A. Corbett)

Student clubs and activities

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

Summary of Service Activities

Student advising

Undergraduate student research direction
Ali, Jon; C. Wyatt
Doliboa, Savanah; T. Brown
Jacobson, Kirsten; T. Brown
Krupka, Angela; T. Brown
Machicao, Julianna; T. Cope
Morah, J. Chika; C. Wyatt
Pessoa, Sophia; T. Brown
Saylor, Cody; T. Brown
Tran, Thaon; C. Wyatt
Turnwald, Emily; N. Bigley
Vaish, Anchal; T. Brown

Graduate students

Doctoral - Thesis

Graham, Cathy D.  Chemosensitive Neurons of the Locus Coeruleus and the Nucleus Tractus Solitarius: Three Dimensional Morphology and Association of the Vasculature.  R. Putnam
Koesters, Andrew G.  Rab3A as a modulator of homeostatic synaptic plascitity.  K. Engisch

Anatomy Master – Thesis

Balch, Maria.  Effects of Delayed Pharmacological Treatment and Limb Rehabilitation on Infarct Size and Functional Recovery After Stroke.  A. Corbett
Dirr, Emily.  The interaction between ATP13A2 and alpha-synuclein in mice.  M. Rich
Gosky, Brenna.  An Afferent Connectivity with Glycinergic Interneurons in Early Postnatal Mice.  D. Ladle

Anatomy Master – Non-thesis

Eziolisa, Obianuju (Anatomy MS, course option):  Advisor: L. Ream
Hess, Nicholas (Anatomy MS, course option):  Advisor: L. Ream
Lawhorn, Ryan (Anatomy MS, course option):  Advisor: L. Ream
Nicodemo, Jacqueline (Anatomy MS, course option):  Advisor: L. Ream
Swizu, Marcel (Anatomy MS, course option):  Advisor: L. Ream
Salhieh, Amaal (Anatomy MS, course option):  Advisor: L. Ream
Sanders, Elani (Anatomy MS, course option):  Advisor: L. Ream
Stewart, Erica (Anatomy MS, course option):  Advisor: L. Ream
Wallace, Kayla (Anatomy MS, course option):  Advisor: L. Ream
Wrice, Antoine (Anatomy MS, course option):  Advisor: L. Ream

Anatomy – Certificate

Hoang, Ryan:  Advisor: L. Ream

Physiology & Neuroscience Master – Thesis

Jurcsisn, Jennifer.  The CAMKKβ Inhibitor STO-609 Causes Artefacts in Ca2+ Imagine and Sselectively Inhibits BKCa in Mouse Carotid Body Type I cells.  C. Wyatt
Sonner, Martha.  Investing Anatomical and Molecular Aspects of Proprioceptive Sensory Neuron Diversity Using a Transgenic Mouse Model.  D. Ladle
Wagner, Jessica.  Effects of Transcranial Direct Current Stimulation on Expression of Immediate Early Genes (IGE’s).  R. Jankford
Microbiology & Immunology Master – Thesis
Albeshri, Hind. Effect of Herpes Simplex Virus-1 on Microphage CD Marker Expression. N. Bigley
Alhayyani, Sultan Mohammed. Expression of the Alpha, Beta, and Gamma Subunits of the Interleukin-2 Receptor by Human Vascular Smooth Muscle Cells. N. Bigley
Abdulhadi, Fatma Husien S. Differentiation of U-937 monocytes to macrophage-like cells polarized into M1 or M2 phenotypes according to their specific environment: a study of morphology, cell viability and CD markers of an in vitro model of human macrophages. N. Bigley
Allabidi, Abdulrahman Abdalla. Comparison between flow cytometry and bead method in counting CD4 and CD8 T lymphocytes in mouse spleen cells suspension. N. Bigley
Cheemarla, Nagarjuna Reddy. SOCS1/SOCS3 Expression and Virus Replication of DENV2 and HSV-1 in Cytokine-Polarized Subsets of RAW 264.7 Macrophages. N. Bigley

Committee membership/officer [indicate if committee chair]
Wright State University Boonshoft School of Medicine
Admissions Committee (G. Nieder, B. Kraszpulska, R. Putnam)
BBED/Neuroscience Project Advisory Committee (T. Cope)
Biennium 1 Subcommittee of the Faculty Curriculum Committee (A. Corbett, L. Ream, G. Nieder, M. Rich, N. Ritucci)
Biennium One Electives Subcommittee (B. Kraszpulska)
Board of Directors, Academy of Medicine (T. Cope)
Cells, Tissues, and Organ Systems Content Committee (L. Ream, Chair)
Digestive Steering Committee (N. Ritucci, Chair)
Dismissal Committee (T. Cope)
Executive Committee (T. Cope)
Faculty Curriculum Committee (T. Cope)
Faculty Senate Executive Committee (T. Cope)
Human Structure Steering Committee (G. Nieder, Chair, B. Kraszpulska)
Medical School Curriculum Reform Committee (M. Rich)
Neurology Executive Committee (T. Cope)
Neuroscience Institute Physician Council (T. Cope)
Neuroscience Institute Third Annual Symposium Planning Committee (T. Cope, Chair, M. Rich)
Neuroscience Institute Steering Committee (T. Cope, Chair, M. Rich)
Nomination Committee (L. Ream)
Pediatric Neurology, Search Committee (T. Cope)
Renal Curriculum Content Committee (A. Corbett, Chair, L. Ream)
Research Committee (C. Wyatt)
Respiratory Steering Committee (N. Ritucci)
Strategic Planning Focus Committee – Education (B. Kraszpulska)
Student Appeals Committee (G. Nieder)
WrightCurriculum Task Force - Meaningful Clinical Experiences Subgroup (G. Nieder)

Biomedical Sciences Committee Memberships
Academic Policies Committee (T. Cope, K. Engisch, C. Wyatt)
Admissions Committee (T. Brown, Chair, C. Wyatt)
Curriculum Committee (A. Corbett, K. Engisch, D. Halm, A. Kozak)
Five Year External BMS Review Committee (T. Brown)
Integrative Biology and Toxicology Area (D. Wooley)
Nominating Committee (D. Ladle, C. Wyatt)
Program Planning Review Committee (C. Wyatt)
Research Retreat Program Committee (T. Cope, C. Wyatt)
Neuroscience, Cell Biology and Physiology Committee Memberships

Activities and Accomplishments (D. Wooley)
Advisory Committee (A. Corbett, Chair, B. Kraszpulsa, D. Ladle, L. Ream)
Anatomy Faculty Development Committee (L. Ream, M. Rich, D. Wooley)
Anatomy Promotion & Tenure Committee (APTC) (B. Kraszpulsa)
Annual Evaluation Screening Committee (L. Ream, Chair, N. Bigley, M. B. Kraszpulsa, Rich, C. Wyatt)
Cell signaling search committee (C. Wyatt, Chair)
Faculty Search Committee for Anatomy Instructor (N. Ritucci, G. Nidier, B. Kraszpulsa, L. Ream)
Promotion and Tenure Committee (R. Putnam, Chair, D. Halm, G. Nieder)
Sensorimotor Integration (SMI) (C. Wyatt)

Wright State University

Academic Diversity Initiatives Council (K. Engisch)
Academic Policies Committee (C. Wyatt)
Academic Services Committee (K. Engisch)
Board of Directors, Academy of Medicine (T. Cope)
Campus Completion Committee (K. Engisch)
Committee to select Architect/Engineering for new Neuroscience Engineering Collaboration Building (T. Cope)
Exploratory Committee, Ph.D. Program Development in Math and Physics (T. Brown)
Faculty Budget Priority Committee (T. Cope)
Higher Learning Comission Steering Committee (K. Engisch)
Higher Learning Comission--Criterion 2 (K. Engisch)
Honors Institute Advisory Board (T. Cope)
Institutional Biosafety Committee (K. Engisch, D. Ladle)
LACUC Institutional Laboratory Animal Care and Use Committee (C. Wyatt, Chair, T. Brown, Interim Vice Chair, M. Rich)
LACUC Investigative Subcommittee (T. Brown)
LEADER Wright State Committee (K. Engisch)
Neuroscience Component, NEC Building (T. Cope, Coordinator)
Neuroscience Institute Translation Research Group (T. Cope)
Radiation Safety Committee (A. Corbett)
Research Conduct and Ethics Investigative Committee (T. Brown)
Search Committee for Ohio Scholars (T. Cope)
Senate Advisory Committee on Research Misconduct (T. Cope)
University, Parking Committee (D. Wooley)

Wright State University College of Science and Mathematics

Curriculum Committee (N. Ritucci)
Mediation Committee (D. Halm)
Petitions Committee (D. Miska)
Promotion & Tenure Committee (D. Halm, G. Nieder)
University College Academic Standing Review and Appeals Committee (B. Kraszpulsa)
Women in Science Giving Circle Committee (B. Kraszpulsa)

Microbiology & Immunology Committee Memberships

Admissions Committee of M&I Graduate Program (N. Bigley, T. Brown)

Wright State Graduate School

Curriculum Subcommittee of Graduate Studies Committee (L. Ream, Chair)
Graduate Directors Council (L. Ream)
Graduate Studies Committee (L. Ream)

Hospital or affiliated institution [name]
Premier Health Partners Neuroscience Steering Committee (T. Cope, M. Rich)
State

National
American Biological Safety Association (D. Wooley)
NIH Recombinant DNA Advisory Committee (D. Wooley)
Promotion and Tenure Ad Hoc Reviewer for the University of California San Diego (R. Putnam)
Scientific Program Committee, (D. Wooley)

Patient Care Summary
Mark Rich, M.D., Ph.D. – 180 ambulatory visits in 2014

Honors and awards [Faculty or staff]
Boonshoft School of Medicine Faculty Mentor Award (T. Brown)

Hosted events [CME, etc.]
Science Olympiad
Third Annual Neuroscience Symposium, Frontiers in Epilepsy
Ohio Miami Valley Society for Neuroscience, Neuroscience Day
Ohio Miami Valley Society for Neuroscience, Professional Development Workshop

Other information