



Department of Biochemistry and Molecular Biology
Annual Report

2016

Madhavi Kadakia, Ph.D.
Professor and Chair

For the period including
January 1, 2016 — December 31, 2016

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Statement from the Chair/Associate Dean

- In 2016, we prepared and submitted all the paperwork for approval of the undergraduate program in Biochemistry and Molecular Biology for approval at the state level. We received approval from the State of Ohio a week before the Fall 2016 semester. We currently have 7 students who have transferred to our program.
- In 2016, we continued to offer the new 3 credit hour course Biochemistry for pre-medical students in Spring 2016 and Fall 2016 as before but also offered it as an online class in summer 2016. Since its inception, we have enrolled a total of 121 students in this class.
- In 2016 we hired two Assistant Professors, Dr. Ren and Dr. Cho. Dr. Ren came with some American Scientist development grant funding. Dr. Cho had a K99/R00 award and his 3 year of the R00 award began after he started at WSU. We have continued with faculty search in 2016.
- Dr. Long received the Outstanding Junior Faculty Award by Academy of Medicine, Wright State University.
- The MS/MD program is in the workflow for approval.
- In 2016 BMB faculty received a total of 30 funded grants (national, local and internal) totaling \$2,056,384 (\$1,570,644 in direct costs and \$485,740 in indirect costs).
- BMB faculty reported a total of 28 manuscripts (26 manuscripts published and 2 in press) in 2016.
- Students and faculty from the department presented a total of 55 posters 55 or talks on their research at local (Central research forum, Celebration of Research, Women in STEMM institute forum, BMB Research Retreat, BMS research retreat held at WSU, and several national and international meetings. In addition, BMB faculty presented 11 invited talks including research meetings.
- In 2016, we had a total of 3 BMB admin staff (2 full time and 1 part time), 14 Ph.D. students, 19 Master's students, 8 undergraduates, 2 post-docs and 4 research associates. Of the 33 graduate students, 12 students graduated by end of 2016 (5 Ph.D. and 7 Master's students).
- In September 2016, BMB held its annual Research retreat at Gilbert's party Barn where all the students in the department had an opportunity to give platform presentations.
- In August 2016, BMB held its annual BMB faculty retreat.
- In April 2016 we organized the Varandani lecture and combined it with Weisman Memorial and invited National Academy member Dr. David Mangelsdorf to present the seminar.
- In 2016, BMB faculty was involved in several outreach activities. BMB faculty was a speaker at an event hosted local American Cancer Society reception at Nutter Center. BMB faculty participated as a judge at the Montgomery County Science Day, Intel International Science and Engineering Fair and At the Miami Valley Career Technology center Biotechnology day held at WSU.

2 Programs/Divisions

Name of Division or Program	Director	Dates
BMB MS	John Paietta	2016
BMB BS	Chad Campbell	2016

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

Name and Academic Position	Research Interests
Dr. Cambroner	Our laboratory studies the molecular mechanisms underlying cell movement of blood leukocytes and cancer cells. We have a proven track record in the area of cell signaling for 17 years. Our efforts concentrate on the regulation of the signaling molecule phospholipase D (PLD) and we have become leaders in the field. We proved that the enzyme PLD2 is necessary for inflammation and leukocyte chemotaxis in seminal papers (Blood and FASEB J). We were the first group to explain how PLD2 biological activity is regulated, by discovering new molecular associations through SH2 domains with the signaling molecules Grb2, Sos and Rac2 (Oncogene, JMB, JBC and MCB). We have also provided the groundbreaking demonstration (PNAS; Cell Signaling, 2011) that a phospholipase can act as a GTPase exchange factor, GEF, and have mapped the enzymatic catalytic site (JBC, 2012; J Cell Science, 2013). Our team will continue to investigate the intracellular signaling hierarchy that controls chemotaxis. We are using a multi-disciplinary approach to do this, involving contemporary molecular, biochemical, genetic, cellular and physiological tools. Our long-term goal is to find ways (an inhibitor) to prevent the accumulation of leukocytes that cause chronic inflammation and tissue damage in the heart. In a 2nd line of research, we are applying our mechanistic understanding of cell migration to breast cancer cell invasion, with the ultimate goal of finding ways to prevent breast cancer metastasis in the lung (Oncogene, 2013). We have recently demonstrated the role of PLD in specific microRNAs involved in the Epithelial to Mesenchymal transition (EMT) in breast cancer cells (JBC, 2015, MCB, 2015).
Dr. Campbell	This past year I have been the major contributor to the development of a BS in BMB program. Many courses have been submitted and approved by the various curriculum committees and ODHE and our Undergraduate program was approved for the 16-17 academic year. I have also been the course director for Biochemistry and Molecular Biology I and II, BMB 1000: Freshman Seminar and both the graduate seminar courses BMB 8000 and 9000. I was a codeveloper and instructor for BMB 3220:

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Biochemistry for Pre-Meds and was involved in the development and institution of a BMB Pilot lab in cooperation with Dr. Schmidt. I have also participated on various different committees and worked with the department chair in efforts related to undergraduate program marketing, alumni funding campaigns. Finally I have acted as the undergraduate program director and student advisor to our new BMB majors.

Dr. Cho

The Ras GTPases comprising three main isoforms H-, N- and K-Ras operate at the plasma membrane as molecular switches in essential signaling pathways. Approximately 15% of all human carcinomas have activating point mutations in RASgenes. Oncogenic K-Ras mutants are found in 90 percent of pancreatic, 45 percent of colorectal and 35 percent of lung cancers. Despite significant efforts to directly target Ras activity, no anti-Ras drugs have been developed and taken into the clinic. Since Ras proteins must be anchored to the inner leaflet of the plasma membrane for full biological activity, inhibition of K-Ras plasma membrane interaction is a valid therapeutic approach to abrogate oncogenic K-Ras activity. My research investigates molecular mechanisms of K-Ras interaction with the plasma membrane, and discovery of compounds and proteins that regulate K-Ras plasma membrane interaction. Such compounds and/or proteins may be a starting point to develop novel anti-cancer therapies that specifically target K-Ras-driven cancers.

From a high content cell-based screen of chemical and human siRNA libraries, I identified both exogenous and endogenous regulators of the K-Ras plasma membrane interaction. Three classes of compounds and a set of proteins that induce K-Ras dissociation from the plasma membrane were identified. The mechanisms, which reduced K-Ras signaling were: increased K-Ras phosphorylation by the AMPK/eNOS/PKG pathway, and perturbation of cellular phosphatidylserine (PS) distribution. Characterization of these novel mechanisms will provide new insight into K-Ras plasma membrane interactions, and form the basis of a novel approach to inhibit K-Ras plasma membrane interaction.

Dr. Craig

I obtained my BA in microbiology from Miami University in 1993, my MS in biological sciences in 2001, and my PhD in Systems Biology in 2015.

Dr. Kadakia

My research program employs bench-based research that integrates clinical studies with the goal of translating biomedical research findings to the bed-side. My laboratory has focused on three areas of research. The first area is focused on identification of signaling pathways that play a role on cancer and development. We are studying the mechanism by which p53 family members, comprising of both oncogenes and tumor suppressors, are deregulated in non-melanoma skin cancer. Specifically, my laboratory has been studying the role of p53 family of proteins (p53, p63 and p73) either directly or via modulation of other proteins in development and progression of cancer. Regulation of vitamin D receptor (VDR) by p63 and p73 is another major focus in my laboratory. We are studying the feedback mechanisms by which VDR/Vitamin D signaling pathway regulates p63 and thereby affecting cell survival or inhibition of metastases. Other projects in the laboratory are focused on the effect of post-translational modifications of p63 on its biological function.

The second area of focus in my laboratory has been to identify biomarkers that can help differentiate different stages of cancer and in

Name and Academic Position Research Interests

long term lead to personalized patient care. Towards this goal I have obtained grant funding to purchase state-of-the art, next-generation sequencing (NGS) tools as well as a high throughput, real time PCR machine which will aid in these studies. Developments in next generation sequencing (NGS) technology have revolutionized our understanding of the complexity of cellular gene expression. NGS provides a better understanding of the molecular mechanisms involved and is the most suitable approach to develop biomarker discovery pipelines. We will compare the differential expression of known microRNAs in tissue and plasma samples from patients with Barrett’s esophagus (BE) and Esophageal adenocarcinoma (EAC) in order to identify circulating microRNA biomarkers for early detection of EAC. Endoscopy is currently the only way to diagnose BE and EA, so identification of noninvasive biomarkers is critical for the improvement of current screening tools and for the identification of patients at high risk for progression to cancer who will benefit from surveillance. We have also used NGS to identify microRNAs and mRNAs regulated by both VD3 and p63. In addition, my laboratory has obtained funding from Ohio federal research network and Multi-university related research initiative from office of Naval research to study microRNA as biomarkers for motion disorders and High intensity training, respectively.

Dr. Leffak

Leffak laboratory: The work in our laboratory is built on our discovery of the human c-myc origin of DNA replication. There are currently two major project directions underway. The first is the identification of proteins that bind to the c-myc replication origin and the mechanism by which they promote the initiation of DNA synthesis. The second is the use of the c-myc replication origin in the design and genetic engineering of human cell models of disease (myotonic dystrophy type 1, Huntington disease, spinocerebellar ataxia type 10, polycystic kidney disease) caused by the instability of short, microsatellite DNA sequences.

Dr. Long

There are currently five people in the laboratory. We have been actively performing research projects as described below.

1. Weiwen Long, Ph.D., the Lab PI, has been training and supervising students and postdoctoral fellow on their research projects. In addition, the PI has also been conducting experiments for developing new research projects in the lab.
2. Cheng Zhang, M.D., Research Assistant 2, joined the lab on April 1, 2015 and has been conducting a project about ERK3 in lung tumorigenesis and a project about ERK3 function in insulin secretion.
3. Lobna Elkhadragey, a BMS Ph.D. graduate student, has been conducting projects on the molecular regulations of ERK3 gene expression and kinase activity in cancer cells.
4. Hadel Mohammed A Alsarani, a Master student in BMB department, has been conducting a project on ERK3 gene mutations in cancer.
5. Aldharee, Hitham Abdulrahman, a Master student in BMB department, joined the lab in October, 2015 and has been conducting a project about the interplay between ERK3 and RhoGDI/PAK signaling.
6. Brian James Caprul, a Bio-star program undergraduate student, has been conducting a project on miRNAs regulated by ERK3 and their functions in cancer cell migration/invasion.

Dr. Markey

My research also involves several projects through my role as Director of the Center for Genomics Research. These include collaborative proposals and projects with several other laboratories and small businesses.

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Additionally, I am working with the Dermatopathology Lab of Central States to identify copy number variations that distinguish melanoma from benign nevi and normal skin samples. We have expanded this study to look at a potential role of ERK3 in melanoma.

Dr. Paietta

A newly developing area of research in my laboratory is the identification and study of novel gene control elements termed riboswitches. In particular, we are examining the regulation of eukaryotic gene expression by riboswitches. Riboswitches, which are non-coding RNAs that selectively bind target molecules and alter gene expression levels by a variety of mechanisms, offer new opportunities for a variety of medical and biotechnology applications. In addition, we are continuing our work on the molecular genetic study of fungal sulfur metabolism. Our work involves the study of a complex control network of regulatory proteins that sense the level of sulfur and direct subsequent cellular responses.

Dr. Paliy

Areas of Research Interests:

Role of intestinal bacteria in human health and in gastrointestinal diseases such as IBD, IBS, and obesity.

Metabolic interactions in complex microbial communities.

Use of metabolic and mathematical modeling to study biological principles.

Methodologies used

Standard microbiology techniques

Standard molecular biology methods

Gene expression profiling with microarrays and qPCR

High-throughput sequencing and data analysis

Microbial community analysis by 16S RNA sequencing, phylogenetic microarrays, and FISH

Bioinformatics and computational biology

Biostatistics and phylogenetic analysis

Dr. Ren

The goal of my research is to elucidate a pathway that controls the clearance of dysfunctional mitochondria (mitophagy) which could be manipulated to protect patients from muscle injury and age-related diseases. This application is an advancement of our recent discovery that lipin1 plays an intriguing role in mitophagy by maintaining mitochondrial integrity and function. We recently generated some unique mouse models including GFP-tagged lipin1-deficient LC3 transgenic mice, and skeletal muscle-specific lipin1 deficient mice. These unique mouse models can be used to monitor the autophagy/mitophagy process efficiently. We will determine the underlying mechanisms of lipin1 in regulating mitophagy and in the control of LPIN1-related rhabdomyolysis and muscle wasting.

The second area of focus in my laboratory has been to examine the role of Lipin1 in regulating fate transdifferentiation of myogenic progenitors between skeletal muscle and adipose tissue. Our previous work in global lipin1 deficient (fld) mice demonstrate that lipin1 plays a major role in SM regeneration. Current work from our laboratory using newly generated cell type-specific mouse model, myf5-cre;Lipin1fl/fl conditional knockout (Lipin1myf5+KO) mice unequivocally shows that lipin1 is a major determinant of SM and adipose tissue development. The overall goal of this research is to identify biological mechanisms that regulate cell fate and transdifferentiation of the SM, BAT and WAT cell lineages. The results

Name and Academic Position	Research Interests
	of this study should help in developing new strategies to improve SM metabolism and promote adipose browning for the treatment of obesity and metabolic syndrome.
Dr. Reo	In general, my research interest is focused in the development and application of nuclear magnetic resonance (NMR) based metabolomics in biomedical research. Several projects strive to develop this technology as a tool to: (1) assess tissue function/dysfunction; (2) detect exposure to chemical toxicants and assess related health effects; and (3) diagnose health status and disorders of the intestinal tract. Metabolite profiles from blood serum, urine, fecal extracts, or tissue extracts are measured by NMR spectroscopy and correlated with other biological/biochemical indices. Multivariate data analyses and bioinformatics tools are used to help visualize, analyze, and interpret complex data, and relate or correlate this information to disease processes or toxicity.
Dr. Schmidt	Miami University, Oxford, OH May 2012 Ph.D. Chemistry and Biochemistry (Ann Hagerman, advisor) Dissertation Title: Tannins in Natural Soil Systems Edinboro University, Edinboro, PA May 2007 B.S. Biochemistry
Dr. Todd	Amber Todd received an AS from Cottey College, a BA in biochemistry from Mount Holyoke College, and her Ph.D. in Biomedical Sciences from Wright State University. Her dissertation research focused on genetics education research at the high school level. She completed a postdoctoral fellowship at Wright State University focusing on educational assessment in genetics at the high school and college level. She has published multiple first author papers in peer-reviewed journals in the field of science education and presented at several international conferences. She is currently the Director of Assessment for the Office of Medical Education for the Boonshoft School of Medicine at Wright State University and is also an Adjunct Assistant Professor in the Department of Biochemistry & Molecular Biology at Wright State University.

4 Teaching

Graduate teaching

Dr. Cambronero

Spring 2016

BMS-7600: Molecular biology of the Nucleus, 9 credit hours, 14

students, 26 total contact hours (11 lecture hours, 15 non-contact hours), Team taught, Classroom course, Course Director: Dr. Michael Leffak, Taught 9 hours + 2 hours in the mock grant review session

BMB-8990: Biochemistry Research, 8 credit hours, 3 students, total contact hours (lecture hours, non-contact hours),

BMB-4990: Undergraduate Research, 6 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Laboratory

BMB-9950: BMS Research, 12 credit hours, 3 students, total contact hours (lecture hours, non-contact hours), Laboratory
Summer 2016

BMB-9970: Lab Rotation Research, 4 credit hours, 1 student, total contact hours (lecture hours, non-contact hours),
Laboratory

Fall 2016

BMB-9950: BMS Research, 8 credit hours, 3 students, total contact hours (lecture hours, non-contact hours),

BMB-7530: Molecular Signaling, 4 credit hours, 11

students, 31 total contact hours (11 lecture hours, 20 non-contact hours), Team taught, Classroom course, Course Director:
Course Director, Was course director and taught in this course my own lecture

BMB-4990: Undergraduate Research, 8 credit hours, 2 students, total contact hours (lecture hours, non-contact hours),
Laboratory

BMB-8990: Biochemistry Research, 7 credit hours, 6 students, total contact hours (lecture hours, non-contact hours),
Laboratory

BMS-9940: Introduction to Research, 4 credit hours, 9 students, total contact hours (lecture hours, non-contact hours),
Seminar

Dr. Campbell

Spring 2016

BMB 3230: Biochemistry and Molecular Biology II, 3 credit hours, 5 students, 27 total contact hours (21 lecture hours, 6
non-contact hours), Team taught, Classroom course, Course Director: Dr. Chad Campbell, It was my responsibility to teach
21 lectures and three review sessions as well as prepare two in class and two out of class assessments. Two exams were
proctored.

BMB 8000: Biochemistry Seminar, 1 credit hour, 15 students, total contact hours (lecture hours, non-contact hours),
Seminar

BMB 9000: Advanced Seminar, 1 credit hour, 7 students, total contact hours (lecture hours, non-contact hours), Team
taught, Seminar

BMB 4230: Biochemistry and Molecular Biology II, 3 credit hours, 26 students, 27 total contact hours (21 lecture hours, 6
non-contact hours), Team taught, Classroom course, Course Director: Dr. Chad Campbell, It was my responsibility to teach
21 lectures and three review sessions as well as prepare two in class and two out of class assessments. Two exams were
proctored.

BMB 3220: Biochemistry for Pre-Meds, 3 credit hours, 30 students, 8 total contact hours (3 lecture hours, 5 non-contact
hours), Team taught, Classroom course, Course Director: Dr. Schmidt, For this course I taught 2 classes (3 lecture hours)
covering cell signaling and gene expression. For his course I also developed one exam and proctored two more.

Fall 2016

BMB 4210-01: Biochemistry and Molecular Biology I - 01, 3 credit hours, 27 students, 38 total contact hours (30 lecture
hours, 8 non-contact hours), Team taught, Classroom course, Course Director: Dr. Chad Campbell, It was my responsibility
to cover thirty lectures, four review sessions and present the students with four in class and four out of class assessments
on those lectures. I proctored all four exams for the course.

BMB 4210-02: Biochemistry and Molecular Biology I - 02, 3 credit hours, 24 students, 38 total contact hours (30 lecture
hours, 8 non-contact hours), Team taught, Classroom course, Course Director: Dr. Chad Campbell, It was my responsibility
to cover thirty lectures, four review sessions and present the students with four in class and four out of class assessments
on those lectures. I proctored all four exams for the course.

BMB 3220: Biochemistry for Pre-Meds, 3 credit hours, 30 students, 18.5 total contact hours (12 lecture hours, 6.5 non-
contact hours), Team taught, Classroom course, Course Director: Dr. Campbell and Dr. Schmidt, For this course I taught 8
classes (12 lecture hours) covering protein metabolism, cell signaling, interorgan metabolism, nucleic acid structure, DNA
replication and repair, transcription, translation and gene expression. For his course I also developed one exam and
proctored two more.

BMB 1000: Freshman Seminar, .5 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Seminar

Dr. Kadakia

Spring 2016

BMB/BMS 7520: Biochemistry and Molecular Biology II, 13 credit hours, 29 students, 18 total contact hours (13 lecture
hours, 5 non-contact hours), Team taught, Classroom course, Course Director: Madhavi Kadakia, In addition to lectures I

contributed to one HW assignment, 1 recitations, and 2 exams. Thus the non-lecture contact hours include: 1-hr recitation + (2 x 2-hr exams) = 5 hrs.

BMB 8990: Biochemistry Research, 7 credit hours, 2 students, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9950: Non - Dissertation Research, 11 credit hours, 2 students, total contact hours (lecture hours, non-contact hours), Laboratory

Summer 2016

BMB 8990: Biochemistry Research, 12 credit hours, 2 student, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9960: Laboratory Rotation, 4 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Laboratory

Fall 2016

BMB 8990: Biochemistry Research, 7 credit hours, 2 student, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9950: Non - Dissertation Research, 10 credit hours, 2 students, total contact hours (lecture hours, non-contact hours), Laboratory

BMB 8000/BMS9900-06: Biochemistry Seminar, 1 credit hour, 6 students, total contact hours (lecture hours, non-contact hours), Seminar-course Director

Dr. Leffak

Spring 2016

BMB 7600: Mol. Biol. of the Nucleus, 4 credit hours, 14 students, 15 total contact hours (6 lecture hours, 9 non-contact hours), Team taught, Classroom course, Course Director: Leffak, Course Director

BMB 8990: Dissertation Research, 15 credit hours, 2 students, total contact hours (lecture hours, non-contact hours), Laboratory

BMB 7030: Research Ethics, .5 credit hours, 25 students, total contact hours (lecture hours, non-contact hours), Seminar

Summer 2016

BMB 8990: Dissertation Research, 15 credit hours, 2 students, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9910: Special Topics - Grant Proposal Writing Seminar, 1 credit hour, 8 students, total contact hours (lecture hours, non-contact hours), Team taught, Seminar

Fall 2016

BMB 7500: Mol. Biochem. I, 3 credit hours, 70 students, 25 total contact hours (20 lecture hours, 5 non-contact hours), Team taught, Classroom course, Course Director: Leffak, Course Director

BMB 8990-01: Dissertation Research, 15 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Laboratory

Dr. Long

Spring 2016

BMB 7600 Molecular Biology of the nucleus, 3 credit hours, 10 students, 12 total contact hours (9 lecture hours, 3 non-contact hours), Classroom course, Course Director: Michael Leffak, My lectures were focused on posttranslational regulation of transcription factors. I taught 6 lectures and attended Proposal presentations.

BMS 9960 Laboratory Rotation I, 4 credit hours, 1 students, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9990 Dissertation Research, 5 credit hours, 1 students, total contact hours (lecture hours, non-contact hours), Laboratory

BMB 8990 Biochemistry Research, 5 credit hours, 2 students, total contact hours (lecture hours, non-contact hours), Laboratory

Summer 2016

BMB 8990 Biochemistry Research, 16 credit hours, 2 students, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9970 Laboratory Rotation II, 4 credit hours, 1 students, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9990 Dissertation Research, 12 credit hours, 1 students, total contact hours (lecture hours, non-contact hours),
Laboratory

Fall 2016

BMB 9000 Advanced Seminar in Biochemistry and Molecular Biology, 1 credit hour, 4 students, 2 total contact hours (0 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: Weiwen Long, as the course director, conducting dissertation research

BMB 7530 Molecular Signaling, 3 credit hours, 6 students, 11 total contact hours (9 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: Julian Cambroner, I taught 7 lectures (1 hr. and 20 min each) and one exam (2 hrs.)

BMS 9990 Dissertation Research, 5 credit hours, 1 students, total contact hours (lecture hours, non-contact hours),
Laboratory

Dr. Markey

Spring 2016

BMB 8990-05: Biochemistry Research, credit hours, 2 students, total contact hours (lecture hours, non-contact hours),
Laboratory

Summer 2016

BMB 8990-06: Biochemistry Research, credit hours, 1 student, total contact hours (lecture hours, non-contact hours),
Laboratory

Fall 2016

BMB 8990: Biochemistry Research, credit hours, 1 student, total contact hours (lecture hours, non-contact hours),
Laboratory

Dr. Paietta

Spring 2016

BMB 7600: Molecular Biology of the Nucleus, 3 credit hours, 14 students, 9 total contact hours (8 lecture hours, 1 non-contact hours), Team taught, Classroom course, Course Director: M. Leffak, Spring 2016. Taught section on non-coding RNAs and various aspects of gene regulation.

BMB 8990: Biochemistry Research, credit hours, 3 students, total contact hours (lecture hours, non-contact hours),
Laboratory

Summer 2016

BMB 8990: Biochemistry Research, credit hours, 4 students, total contact hours (lecture hours, non-contact hours),
Laboratory

Fall 2016

BMB 7020: Research Perspectives, 3 credit hours, 4 students, 10 total contact hours (9 lecture hours, 1 non-contact hours), Team taught, Classroom course, Course Director: Course Director, Ran course in role of Director of BMB M.S. Program. The remainder of course meeting times not taught by myself were taught by other BMB faculty (1 class meeting/faculty).

BMB 7530: Molecular Signaling-Molecular Cell Biology, 3 credit hours, 13 students, 13 total contact hours (12 lecture hours, 1 non-contact hours), Team taught, Classroom course, Course Director: J. Cambroner, Spring 2016. Taught genes and signaling section.

BMB 7890: Continuing Registration, 1 credit hour, 1 students, 1 total contact hours (0 lecture hours, 1 non-contact hours), Classroom course, Course Director: , Continuing registration- Administrative role as Director of BMB MS Program, Continuing registration course.

BMB 8990: Biochemistry Research, 1 credit hour, 1 student, total contact hours (lecture hours, non-contact hours),
Laboratory

Dr. Paliy

Spring 2016

BMB 3230: Biochemistry II, 9 credit hours, 35 students, 10 total contact hours (8 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: Chad Campbell, Taught about a third of the course

BMB 4230: Biochemistry II, 9 credit hours, 55 students, 10 total contact hours (8 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: Chad Campbell, Taught about a third of the course

BMB 7600: Molecular Biology of Nucleus, 10 credit hours, 14 students, 10 total contact hours (10 lecture hours, 0 non-

contact hours), Team taught, Classroom course, Course Director: Michael Leffak, Taught a section of the class focused on the DNA material in prokaryotes

BMS 9950: Non-dissertation research, 1 credit hours, 1 students, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9990: Dissertation research, 29 credit hours, 2 students, total contact hours (lecture hours, non-contact hours), Laboratory

Summer 2016

BMB 8990: Biochemistry Research, 11 credit hours, 2 student, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9950: Non-dissertation research, 17 credit hours, 2 students, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9990: Dissertation research, 12 credit hours, 1 students, total contact hours (lecture hours, non-contact hours), Laboratory

Fall 2016

BMB 8990: Biochemistry Research, 8 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9950: Non-dissertation research, 1 credit hour, 1 students, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9990: Dissertation research, 5 credit hours, 1 students, total contact hours (lecture hours, non-contact hours), Laboratory

Dr. Ren

Summer 2016

BMB 8990-11: Graduate Research, .515 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Laboratory

Fall 2016

BMB-7020: Research Perspective, 3 credit hours, 4 students, 1 total contact hours (1 lecture hours, 0 non-contact hours), Team taught, and Classroom course, Course Director: John V. Paietta, I introduced the research focus and projects in my lab to graduate students in our department and discussed papers published from my lab.

BMB/BMS-7530: Cell Signaling, 3 credit hours, 7 students, 6 total contact hours (4.67 lecture hours, 1.33 non-contact hours), Team taught, and classroom course, Course Director: Dr. Julian Gomez-Cambronero, I taught the lipid mediated cell signaling section in this course

BMB 8990-09: Graduate Research, .515 credit hours, 2 students, total contact hours (lecture hours, non-contact hours), Laboratory

BMB 9000: Introduction to Research, 3 credit hours, 12 students, total contact hours (lecture hours, non-contact hours), Team taught, Seminar

Dr. Reo

Spring 2016

BMB/BMS 7520: Biochemistry & Molecular Biology II, 3 credit hours, 29 students, 18 total contact hours (13 lecture hours, 5 non-contact hours), Team taught, Classroom course, Course Director: Nicholas Reo, In addition to lectures I contributed to one HW assignment, 1 recitations, and 2 exams. Thus the non-lecture contact hours include: 1-hr recitation + (2 x 2-hr exams) = 5 hrs.

BMB 8990: BMB Research, 4.5 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9950: Non-dissertation Research, 3 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9990: Dissertation Research, 6 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Laboratory

Summer 2016

BMB 8990: BMB Research, 4 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9950: Non-dissertation Research, 5 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9990: Dissertation Research, 6 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Laboratory

BMB 7010/BMS 9910: Special Topics: Fundamental Principles of NMR Spectroscopy, 2 credit hours, 4 students, 24.5 total contact hours (19.5 lecture hours, 5 non-contact hours), Classroom course, Course Director: Nicholas Reo, I prepared and graded 5 homework assignments and 2 exams (total exam time = 5 hrs.).

Fall 2016

BMB 8990: BMB Research, 5 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9950: Non-dissertation Research, 5 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Laboratory

BMS 9990: Dissertation Research, 6 credit hours, 1 student, total contact hours (lecture hours, non-contact hours), Laboratory

Dr. Schmidt

Spring 2016

BMB 3220: Biochemistry for Pre-Med, 3 credit hours, 32 students, 35 total contact hours (27 lecture hours, 8 non-contact hours), Team taught, Classroom course, Course Director: Michael Schmidt, I was the course director and taught 2/3 of the course

BMB 7520: Molecular Biochem II, 3 credit hours, 28 students, 15 total contact hours (13 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: Nick Reo, I taught 1/3 of this course

Summer 2016

BMB 3220: Biochemistry for Pre-Med, 3 credit hours, 28 students, 39 total contact hours (39 lecture hours, 0 non-contact hours), Classroom course, Course Director: Michael Schmidt, This course was taught online in the summer of 2016. I was the only instructor

Fall 2016

BMB 3220: Biochemistry for Pre-Med, 3 credit hours, 44 students, 44 total contact hours (36 lecture hours, 8 non-contact hours), Team taught, Classroom course, Course Director: Michael Schmidt, I was the course director and taught most of the course

BMB 4210: Biochem and Mol Biology, 3 credit hours, 51 students, 9 total contact hours (8 lecture hours, 1 non-contact hours), Team taught, Classroom course, Course Director: Chad Campbell, I taught the introduction and Acid/Base

BMB 7500: Molecular Biochemistry 1, 3 credit hours, 39 students, 22 total contact hours (19 lecture hours, 3 non-contact hours), Team taught, Classroom course, Course Director: Michael Leffak, I taught the first half of this course. Covering the introductory information along with the material about proteins and enzymes.

Dr. Todd

Spring 2016

BIO1070: Health and Disease, 3 credit hours, 251 students, total contact hours (lecture hours, non-contact hours), Team taught, Classroom course, Course Director: Amber Todd, Co-taught the course with graduate student Joe Santino. I implemented activities in the course

Undergraduate medical education-BSOM

Dr. Cambroner

Spring 2016

SMD-521: CATOS, 5 credit hours, 110 students, 18 total contact hours (8 lecture hours, 10 non-contact hours), Team taught, Classroom course, Course Director: Dr. Larry Ream, 8 (5 lecture hours + 3 TBL microscopy on Blood direct supervision of students)

Fall 2016

SMD-551: Hematology, 3 credit hours, 109 students, 38 total contact hours (8 lecture hours, 30 non-contact hours), Team taught, Classroom course, Course Director: Course Director, I was the Course Director (attended nearly everybody else's lectures, total time ~30 hours)

and I taught 6 hours (5 mine, 1 substituted Dr. Trout's lecture) + 2 hours supervision TBL

Dr. Markey

Fall 2016

SMD 535 Pathobiology and Therapeutics, 3 credit hours, 100 students, 1 total contact hours (1 lecture hours, 0 non-contact hours), Team taught, Classroom course, Course Director: Paul Koles, Helped write the Readiness Assurance Test for the Genetic Disorders section of the course. Helped with the team-based learning for this section.

Dr. Paietta

Fall 2016

SMD 571: Molecular Basis of Medicine, 7 credit hours, 115 students, 27 total contact hours (24 lecture hours, 3 non-contact hours), Team taught, Classroom course, Course Director: John Paietta, Course director. Organized and implemented substantial restructuring of course to meet 50% engaged learning requirement set by BSOM. Lecturer (both standard lecture and peer instruction) on amino acid metabolism, heme synthesis, jaundice, nucleotide metabolism, DNA structure, DNA replication, RNA structure, transcription, gene regulation, protein synthesis, DNA repair/mutation, genome rearrangements, recombinant DNA and clinical molecular genetics. Also, assisted with MBM remediation (taught review session) in Spring 2016 (2 additional lecture hours not included below)

Dr. Reo

Spring 2016

SMD 571: Molecular Basis of Medicine - Remediation, 10 credit hours, 6 students, 2 total contact hours (2 lecture hours, 0 non-contact hours), Team taught, Classroom course, Course Director: Lawrence Prochaska, Conducted a 2.0 hr. review class for students who needed to remediate the course. Then I submitted questions for a remediation exam that was given in June 2016.

Fall 2016

SMD 571: Molecular Basis of Medicine, 10 credit hours, 115 students, 20 total contact hours (18 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: John Paietta, (1) Attended 2 meetings to help prepare for TBL sessions and IRAT exams.

(2) Provided written notes and practice problems sets.

(3) Contributed to two IRAT quizzes and two exams (including the final exam).

(4) Conducted two 1-hr review sessions (listed as non-lecture hours).

(5) Prepared and conducted six (6) Peer-Instruction sessions (6 hrs.).

(6) Prepared and conducted clicker sessions to aid in review of materials.

(7) Prepared 2 video lectures for on-line viewing.

Dr. Schmidt

Spring 2016

N/A: WrightQ, credit hours, 8 students, 36 total contact hours (35 lecture hours, 1 non-contact hours), Team taught, Classroom course, Course Director: Colleen Hayden, I was trained and conducted WrightQ sessions

Fall 2016

SMD571.2016: Molecular Basis of Medicine, 7 credit hours, 115 students, 17 total contact hours (14 lecture hours, 3 non-contact hours), Team taught, Classroom course, Course Director: John Paietta, I taught the portion of the course. I also developed new materials including video lecture.

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

Graduate student thesis supervisor

Dr. Cambroner

Kristen Fite, M. D./Ph.D.

Ramya Ganesan, Ph.D.

Padmashree Prasad, M. S. Student

Taylor Miller, M. S.

Dr. Cho

Sarah Elizabeth Kovar

Dr. Kadakia

Andrew Stacy, Ph.D.

Reilly J. Clark, Ph.D.
Natasha Hill Ph.D.
Amjad Aljagthmi, M. S.
Suraj Sakaram, M. S.
Marcus Grant, M.S.

Dr. Leffak

Sumeet Poudel, Ph.D.
Todd Lewis, Ph.D.
Eric Romer Ph.D.
Caitlin Castagno, M. S.
Rujuta Gadgil, M. S.

Dr. Long

Lobna Elkhadragey, Ph.D.
Hadel Mohammed A Alsaran, M. S.
Hitham Abdulrahman Aldharee, M. S.

Dr. Markey

Minyi Chen, M. S.

Dr. Paliy

Alex Gordon, Ph.D.
Denise Kramer, Ph.D.
Richard Agans, Ph.D.
Vijay Shankar, Ph.D.
Gaith Fallata, M. S.
Trupthi Mehta, M. S.

Dr. Ren

Abdullah Ali A Alshudukhi, M. S.
Abdulrahman Jama , M. S.

Dr. Rider

Andrea Klingler. M.S.
Emily Erin Delman. M.S.
Shimpi Bedi, M.S.

Dr. Reo

Angela Campo, Ph.D.
Isaie Sibomana, Ph.D.
Amnah Obidan, M. S.

BMB Masters student thesis committee member

Dr. Kadakia

Sreeram Vallabheni, thesis Committee
Minyi Chen, thesis Committee

Dr. Leffak

Victoria Dersham thesis committee

Dr. Long

Amjad Aljagthmi, thesis committee
Taylor Miller, thesis committee
Emily Erin Delman, thesis committee

Suraj Sakaram, thesis committee

Dr. Markey

Abdullah Alshudukhi thesis committee

Andrea Klingler thesis committee

Caitin Castagno thesis committee

Hadel Al saran thesis committee

Rujuta Yashodhan thesis committee

Dr. Paietta

Amnah Obidan thesis committee

Rujuta Gadgil, thesis committee

Dr. Ren

Amjad Ahmed R Aljagthmi's thesis Committee

Hitham Abdulrahman A Aldharee thesis Committee

Minyi Chen's Thesis Committee

Dr. Reo

Abdullah Alshudukhi, thesis Committee

Victoria Dershem, thesis Committee

Bradley Gregg, thesis Committee

Scott Holdgreve (M&I student), thesis Committee

BMS PhD student committee

Dr. Kadakia

Jeannette Loyer-Manger, BMS PhD Dissertation Committee

Lobna Elkhadragey, BMS PhD Dissertation Committee

Dr. Leffak

Andrew Snyder, BMS PhD Dissertation Committee

Daniel Miranda, BMS PhD Dissertation Committee

Sara Seibert, BMS PhD Dissertation Committee

Dr. Long

Elliott Hayden, BMS PhD Dissertation Committee

Stacy, Andrew J., BMS PhD Dissertation Committee

Mahmoud Alghamri, BMS PhD Dissertation Committee

Dr. Markey

Alex Gordon, BMS PhD Dissertation Committee

Hima Yalamanchili, BMS PhD Dissertation Committee

Dr. Paietta

Kristen Fite, BMS PhD Dissertation Committee

Dr. Paliy

Sara Seibert, BMS PhD Dissertation Committee

Dr. Reo

Hima Yalamanchili, BMS PhD Dissertation Committee

Marjorie Markopoulos, BMS PhD Dissertation Committee

Ryan Yoakum, BMS PhD Dissertation Committee

Shimpi Bedi, BMS PhD Dissertation Committee

Denise Kramer, BMS PhD Dissertation Committee

Vijay Shankar, BMS PhD Dissertation Committee

Under Graduate students:

Dr. Cambronero

Brandon Wilkins – STEM

Dr. Kadakia

Kayli Stampfli - STEM

Veronica Wyckoff - STEM

Dr. Leffak

French Damewood – STEM

Dr. Long

Brian James Caprul - Honors

Dr. Paliy

Anne Johns – Honors

Risha Annamraju – High School Student

Asna Khan - NA

Laura Sooy - STEM

Dr. Ren

Kaitlyn Nicole Herbst - STEM

5 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]

Dr. Cambronero

NIH, Mechanism of PLD activation: Role on phagocyte chemotaxis, P.I. Julian G. Cambronero, (1/1/2016 to 1/31/2016) Total \$379950, Direct Current Year \$255000, Indirect Current Year \$124950, Total cost for entire grant period \$1473200, 20% salary for Dr. Cambronero.

Dr. Cho

NIH/NCI, K-RAS PLASMA MEMBRANE INTERACTIONS: A TRACTABLE THERAPEUTIC TARGET, P.I. Kwang-jin Cho, (12/1/2016 to 11/30/2017) Total \$20750, Direct Current Year \$14020.25, Indirect Current Year \$6729.75, Total cost for entire grant period \$747000, 16.7% salary for Dr. Cho.

Dr. Kadakia

Ohio Federal Research Network, Motion Sickness interactions with Spine Disorders, P.I. Ali Reiter, (9/19/2016 to 9/18/2018) Total \$76760, Direct Current Year \$59973, Indirect Current Year \$16787, Total cost for entire grant period \$133000, 5% salary for Dr. Kadakia.

Office of Naval Research-Multi University Research Investigation (MURI), Precision High Intensity Training through Epigenetics, P.I. Dr. Timothy Broderick, (9/1/2016 to 8/31/2017) Total \$83298.34, Direct Current Year \$56282.67, Indirect Current Year \$27015.67, Total cost for entire grant period \$1508485, 10% salary for Dr. Kadakia.

NIH R01, Role of DNp63alpha in Vitamin D mediated cell survival in skin cancer, P.I. Madhavi Kadakia, (4/1/2012 to 3/31/2017) Total \$272655, Direct Current Year \$186750, Indirect Current Year \$85905, Total cost for entire grant period \$1382833, 17% salary for Dr. Kadakia.

NIH, Telomere length dynamics in relation to the changes in Adiposity and metabolic risk. P.I. Miryoung Lee, (9/23/2016 to 8/31/2016) Total \$24220, Direct Current Year \$16365, Indirect Current Year \$7855, Total cost for entire grant period \$121101, 3% salary for Dr. Kadakia.

Dr. Leffak

NIGMS, Second Site Modifiers of Microsatellite Instability, P.I. Ira Leffak, (1/1/2016 to 4/30/2016) Total \$92466, Direct Current Year \$63333, Indirect Current Year \$29133, Total cost for entire grant period \$1109600, 15% salary for Dr. Leffak

Dr. Long

NCI 1R01CA193264-01, ERK3 Kinase Signaling in Lung Cancer , P.I. Weiwen Long, (06/01/2016 to 5/31/2017) Total \$338550, Direct Current Year \$228750, Indirect Current Year \$109800, Total cost for entire grant period \$1692750, 25% salary for Dr. Long.

DOD CDMRP , Role of SRC-3 Δ E4 in the Progression and Metastasis of Castration-Resistant Prostate Cancer, P.I. Weiwen Long, Submitted 07/01/2016, Requested Total \$241855, Direct \$163416, Indirect \$78439 (Active 07/01/2016-06/30/2017).

Dr. Markey

Rogosi Institute, Chemoresistant cancer stem cells undergo gene changes that drive tumor recurrence, P.I. Prithy Martis, (06/20/2016 to 09/06/2016) Total \$1000, Direct Current Year \$1000.

National Science Foundation, MRI: Acquisition of a High Performance Computer Cluster for Multidisciplinary Computational Research and Education, P.I. Amit Sharma, (7/10/2015 to 7/10/2016) Total \$214286, Direct Current Year \$214286, Total cost for entire grant period \$214286.

Department of Defense, Precision High Intensity Training through Epigenetics (PHITE), P.I. Timothy Broderick, (06/01/2016 to 05/31/2021) Total \$1538485.48, Direct Current Year \$1402489, Indirect Current Year \$135996.48, 10% salary for Dr. Markey.

Ischemia Care, LLC, Validation of Affymetrix Clariom S Arrays for Clinical Diagnostics, P.I. Robert Feeney, (12/1/2016 to 1/31/2017) Total \$1084, Direct Current Year \$985, Indirect Current Year \$99, .02% salary for Dr. Markey.

Dr. Paliy

DAGSI, Biomolecular interaction of nanoparticles and other aerospace chemicals with gut microbial and metabolite profiles, P.I. Oleg Paliy, (06/01/2015 to 12/31/2017) Total \$40503.683, Direct Current Year \$32145.63, Indirect Current Year \$8358.053, Total cost for entire grant period \$103260, 8% salary for Dr. Paliy.

Procter & Gamble, Human microbiome research, P.I. Oleg Paliy, (9/1/2011 to 8/30/2016) Total \$7565, Direct Current Year \$7565, Indirect Current Year \$0, Total cost for entire grant period \$37825.

NIH NIDDK, Intestinal epithelial cell regulation of allergic inflammation at distant sites, P.I. Prosper Boyaka, (07/01/2015 to 04/30/2020) Total \$25650.41, Direct Current Year \$17331.31, Indirect Current Year \$8319.1, Total cost for entire grant period \$123977, 5% salary for Dr. Paliy.

NSF MRI, MRI: Acquisition of High Performance Computer Cluster for Multidisciplinary Computational Research and Education, P.I. Amit Sharma, WSU, (9/1/2015 to 8/30/2018) Total \$5000, Direct Current Year \$5000, Indirect Current Year \$0, Total cost for entire grant period \$150000.

American Heart Association, Protective effects of short chain fatty acids against infective endocarditis, P.I. Dr. Yvonne Sun, (01/01/2016 to 12/31/2017) Total \$14000, Direct Current Year \$14000, Indirect Current Year \$0, Total cost for entire grant period \$28000, 5% salary for Dr. Paliy.

Dr. Ren

American Heart Association, National Scientist Development Grant, P.I. Hongmei Ren, (07/01/2012 to 06/30/2016) Total \$39939, Direct Current Year \$39939, Indirect Current Year \$0, Total cost for entire grant period \$39939.

Dr. Reo

DoD, Consortium Research Fellows Program, Graduate Student Fellowship for US Air Force Relevant Research, P.I. Nicholas J. DelRaso, (11/1/2014 to 12/31/2016) Total \$20000, Direct Current Year \$20000, Indirect Current Year \$0, Total cost for entire grant period \$20000.

NIH, RO1, Intestinal Epithelial Cell Regulation of Allergic Inflammation at Distant Sites, P.I. P.N. Boyaka, (7/1/2015 to 4/30/2020) Total \$6231, Direct Current Year \$4210, Indirect Current Year \$2021, Total cost for entire grant period \$29909, 2.67% salary for Dr. Reo.

DoD, Henry Jackson Foundation for the Advancement of Military Medicine, Mechanistic Interpretations of Hypobaric and

Hyperoxia Using Metabolomics and Proteomics, P.I. Nicholas V. Reo, (11/1/2015 to 4/30/2017) Total \$86446, Direct Current Year \$58409, Indirect Current Year \$28037, Total cost for entire grant period \$103735, 10% salary for Dr. Reo. DoD, Henry Jackson Foundation for the Advancement of Military Medicine, NMR-based urinary metabolomics in rats exposed to burn pit emissions and respirable sand, P.I. Nicholas V. Reo, (11/1/2015 to 4/30/2017) Total \$160336, Direct Current Year \$108335, Indirect Current Year \$52001, Total cost for entire grant period \$240504, 15% salary for Dr. Reo.

Internal

Dr. Campbell

Wright State University, 2016 Teaching Innovation Grant Proposal: The Redevelopment of BMB 4210 into a Student-Centered, Active Learning Majors Course, P.I. Dr. Chad Campbell, (1/1/2017 to 12/31/2017) Total \$6000, Direct Current Year \$6000, Indirect Current Year \$0, Total cost for entire grant period \$6000.

Dr. Kadakia

Neuroscience Institute, Premier Health Brain Behavior Fellowship, P.I. Tim Broderick, (10/23/2016 to 9/30/2018) Total \$330000, Direct Current Year \$330000, Total cost for entire grant period \$660000.

Wright State University-teaching Innovation Grant, The redevelopment of BMB 4210 into a student centered, active learning Majors course, P.I. Dr. Chad Campbell, (to) total \$6000, Direct Current Year \$6000.

Dr. Markey

Wright State University, Characterization of Gene Expression in Muscle Proprioceptive Afferents, P.I. David Ladle, (05/16/2016 to 06/30/2017) Total \$20000, Direct Current Year \$20000, Total cost for entire grant period \$20000.

Wright State University, Diagnostic Biomarkers of Ischemic Stroke Identified in Patient Blood: A Clinical/Translational Study, P.I. James Olson, (08/22/2016 to 08/21/2018) Total \$25000, Direct Current Year \$25000.

WSU Graduate Student Assembly, Regulation of ERK3 by BRAF/BRAFV600E in Melanoma, P.I. Michael Markey, (11/08/2016 to 12/31/2017) Total \$750, Direct Current Year \$750, Indirect Current Year \$0, Total cost for entire grant period \$750.

Dr. Paliy

WSU GSA, Assessment of microbial abundances through the use of fluorescent in situ hybridization, P.I. Alex Gordon, (05/01/2015 to 04/30/2016) Total \$250, Direct Current Year \$250, Indirect Current Year \$0, Total cost for entire grant period \$750.

Dr. Reo

WSU Teaching Innovation Grant, The Redevelopment of BMB 4210 into a Student-Centered, Active Learning Majors Course, P.I. Chad Campbell, (11/1/2016 to 10/31/2017) Total \$0, Direct Current Year \$0, Indirect Current Year \$0, Total cost for entire grant period \$6000.

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

Dr. Cambronero

Fite K, Elkhadragy L, Gomez-Cambronero J., 'A Repertoire of MicroRNAs Regulates Cancer Cell Starvation by Targeting Phospholipase D in a Feedback Loop That Operates Maximally in Cancer Cells.', *Mol Cell Biol.* , 36(7);, 1078-89, 2016.

Fite K, Gomez-Cambronero J., 'Down-regulation of MicroRNAs (MiRs) 203, 887, 3619 and 182 Prevents Vimentin-triggered, Phospholipase D (PLD)-mediated Cancer Cell Invasion.', *J Biol Chem.* , 291(2);, 719-30, 2016.

Ganesan R, Mallets E, Gomez-Cambronero J. , 'The transcription factors Slug (SNAI2) and Snail (SNAI1) regulate phospholipase D (PLD) promoter in opposite ways towards cancer cell invasion.', *Mol Oncol.* , May;10(5):6, 663-76, 2016

Henkels KM, Miller TE, Ganesan R, Wilkins BA, Fite K, Gomez-Cambronero J., 'A Phosphatidic Acid (PA) conveyor system of continuous intracellular transport from cell membrane to nucleus maintains EGF receptor homeostasis.', *Oncotarget.* , 7(30);, 47002-47017, 2016.

Henkels KM, Muppani NR, Gomez-Cambronero J., 'PLD-Specific Small-Molecule Inhibitors Decrease Tumor-Associated Macrophages and Neutrophils Infiltration in Breast Tumors and Lung and Liver Metastases.', *PLoS One*, 11(11);, e0166553, 2016.

Miller TE, Gomez-Cambronero J., 'A feedback mechanism between phospholipase D and deadenylase PARN for the shortening of eukaryotic poly(A) mRNA tails that is deregulated in cancer cells.', *Biol Open*, bio.021261, 10.1242/bio.021261, 2016.

Dr. Cho

Cho KJ, Zhou Y, Srivastava PP, Park JH, Chen W, Tan L, van der Hoeven D, Salim A, Kim C, Capon RJ, Lacey E, Casteel DE, Hancock JF, 'AMPK and eNOS signaling regulates K-Ras plasma membrane interactions via cGMP-dependent protein kinases', *Molecular and Cellular Biology*, 36, 3086, 2016.

Sayyed-Ahmad A, Cho KJ, Hancock JF, Gorfe AA, 'Computational Equilibrium Thermodynamic and Kinetic Analysis of K-Ras Dimerization through an Effector Binding Surface Suggests Limited Functional Role', *The Journal of Physical Chemistry B*, 120, 8547, 2016.

Dr. Cho, Zhou Y, Prakash P, Liang H, Cho KJ, Gorfe AA, Hancock JF, 'Lipid-sorting specificity encoded in K-Ras membrane anchor regulates signal output.', *Cell*, 168, 239, 2016.

Dr. Craig

A.J., Stacy, M.P. Craig, S. Sakaram and M. Kadakia, ' Δ Np63 and microRNAs: leveraging the epithelial-mesenchymal transition.' *Oncotarget*, 8(2), 2114-2129, 2017.

K. Baltrunaite, M.P. Craig, S. Palencia-Desai, P. Chaturvedi, R.N. Pandey, R.S. Hegde and S. Sumanas, 'ETS transcription factors Etv2 and Fli1b are required for tumor angiogenesis. ', *Angiogenesis*, 1-17, 2017.

M.P. Craig and S. Sumanas, 'ETS transcription factors in embryonic vascular development', *Angiogenesis*, 19(3), 275-285, 2016.

Dr. Kadakia

Lee M, Ebert JR, Kadakia, Madhavi, Zhang Jin. Czerwonski SA. , 'Inverse associations between cardiometabolic risk factors and 25-hydroxyvitamin D in obese American children and adolescents.' *American Journal of Human Biology*, doi: 10.1002/ajhb.22863, 736-742, 2016.

Matthew W. Grogg, Laura K. Braydich-Stolle, Elizabeth I. Maurer-Gardner, Natasha T. Hill, Suraj Sakaram, Madhavi P. Kadakia and Saber M. Hussain , 'Modulation of miRNA-155 alters manganese nanoparticle-induced inflammatory response', *Toxicol.Research*, 5, 1733-1743, 2016.

Stacy, Andrew J, Craig, Michael P, Sakaram, Suraj, Kadakia, Madhavi, ' Δ Np63 α and microRNAs: leveraging the epithelial-mesenchymal transition.', *Oncotarget*, December 4, 2016, 10.18632, 2016.

Dr. Leffak

Barthelemy J, Hanenberg H, Leffak M., 'FANCI is essential to maintain microsatellite structure genome-wide during replication stress.' *Nucleic Acids Res.* , 44, 6803-16, 2016.

Gadgil R, Barthelemy J, Lewis T, Leffak M., 'Replication stalling and DNA microsatellite instability.' *Biophys Chem.*, pii: S0301-4622(16)30374-X. doi: 10.1016/j.bpc.2016.11.007., 2016.

Guo J, Gu L, Leffak M, Li GM., 'MutS promotes trinucleotide repeat expansion by recruiting DNA polymerase to nascent (CAG)_n or (CTG)_n hairpins for error-prone DNA synthesis.', *Cell Res.* , 26, 775-86, 2016.

Dr. Long

Chen Y, Tang Y, Long W, Zhang C, 'Stem Cell-Released Microvesicles and Exosomes as Novel Biomarkers and Treatments of Diseases', *Stem Cells International*, Editorial, 2, 2016.

Dr. Markey

L. M. Havemann, D.R. Cool, P. Gagneux, M.P. Markey, J.L. Yaklix, R.A. Maxwell, A. Iyer, S.R. Lindheim, 'Vulvodinia: What We Know and Where We Should Be Going', *Journal of Lower Genital Tract Disease*.

A. Mahas, K. Potluri, M.N. Kent, S. Naik, M. Markey, 'Copy number variation in archival melanoma biopsies versus benign melanocytic lesions', *Cancer Biomarkers*, 16, 575-597, 2016.

Dr. Paietta

J.V. Paietta, 'Regulation of Sulfur Amino Acid Metabolism in Fungi', *The Handbook of Microbial Metabolism of Amino Acids*, Chapter 14, 198-210, 2016.

Dr. Paliy

O. Paliy and V. Shankar, 'The application of multivariate statistical techniques in microbial ecology', *Molecular Ecology*, 25, 1032-57, 2016.

Dr. Reo

I. Sibomana, N.J. DelRaso, D.R. Mattie, M.L. Raymer, and N.V. Reo, 'Furosemide enhances the sensitivity of urinary metabolomics for assessment of kidney function', *Metabolomics*.

N.J. DelRaso, D.L. Harville, M.L. Chamberlain, P.E. Anderson, I. Sibomana, M.L. Raymer and N.V. Reo, 'Urinary Metabolite Profiles May be Predictive of Cognitive Performance Under Conditions of Acute Sleep Deprivation', *Current Metabolomics*, 4, 63-77, 2016.

Dr. Schmidt

Halvorson, J.J.; Schmidt, M.A.; Gonzalez, J.M.; Hagerman, A.E., 'Reduction of soluble nitrogen and mobilization of plant nutrients in soils from U.S. northern Great Plains agroecosystem by phenolic compounds', *Soil Biology and Biochemistry*.

Adjunct/Voluntary Faculty Published Articles

Dr. Todd

W. Romine, E. Walter, E. Bosse, A. Todd, 'Understanding patterns of evolution acceptance, A new implementation of the Measure of Acceptance of the Theory of Evolution (MATE) with Midwestern university students', *Journal of Research in Science Teaching*.

A. Todd, and L. Kenyon, 'Empirical refinements of a molecular genetics learning progression: The molecular constructs.' *Journal of Research in Science Teaching*, 53(9), 1385-1418, 2016.

Published, Dr. Todd, A. Todd, and L. Kenyon, 'How do Siamese cats get their color?', *The Science Teacher*, 83(1), 29-36, 2016.

A. Todd, and W. Romine, 'Validation of the Learning Progression-based Assessment of Modern Genetics (LPA-MG) in a college context.' *International Journal of Science Education*, 38(10), 1673-1698, 2016.

A. Todd, W. Romine, K. Cook Whitt, 'Development and validation of the Learning Progression-based Assessment of Modern Genetics (LPA-MG) in a high school context', *Science Education*, 101(1), 32-65, 2017.

W. Romine, A. Todd, and T. Clark, 'How do undergraduates conceptualize acid-base chemistry? Integrating continuous and categorical measurement frameworks to develop, validate, and utilize a learning progression-based measure.' *Science Education*, 100(6), 1150-1183, 2016.

Dr. Rubinson

Kenneth A. Rubinson and Antonio Faraone, 'The Relative Diffusive Transport Rate of SrI2 in Water Changes over the Nanometer Length Scale as Measured by Coherent Quasielastic Neutron Scattering', *Physical Chemistry Chemical Physics*, 18, 12707-12715, 2016.

Kenneth A. Rubinson, Philippe Bÿhlmann, and Thomas C. Allison, 'One-Dimensional Ionic Self-Assembly in a Fluorous Solution: The Structure of Tetra-nbutylammonium tetrakis[3,5-bis(perfluorohexyl)phenyl]borate in Perfluoromethylcyclohexane by Small-Angle Neutron Scattering (SANS)', *Physical Chemistry Chemical Physics*, 18, 9470-9475, 2016.

Kenneth A. Rubinson, Yin Chen, Brady F. Cress, Fuming Zhang, and Robert J. Linhardt, 'Heparin's Solution Structure Determined by Small-Angle Neutron Scattering (SANS)', *Biopolymers*, 105, 905-913, 2016.

Published abstracts

Dr. Cambroner

Kristen Fite and Julian Gomez-Cambroner, MicroRNA Inhibition of Specific Phospholipase D Isoforms Reduces Cancer Cell Invasion, AMA Medical Student Research Symposium, Orlando, FL - (Platform).

Ramya Ganesan and Julian Gomez-Cambroner, Ischemia/Reperfusion Injury worsening is mediated by polymorphonuclear neutrophils through direct activation of Phospholipase D and mTOR, Women in STEMM Leadership Institute, WSU - (Poster).

Kristen Fite and Julian Gomez-Cambroner, Regulation of Cancer Cell Starvation by miRs targeting PLD, Central Research Forum, WSU - (Poster).

Taylor Miller and Julian Gomez-Cambroner, PLD2 and PA, modulate the expression of poly(A)-specific ribonuclease (PARN). Regulatory Relationship between PLD2 and PARN: Activation of PARN Ribonuclease by Phosphatidic Acid (PA), Biochemistry and Molecular Biology Research Retreat, Dayton - (Platform).

Ramya Ganesan, Karen Henkels, Vasile Pavlov, Gregory Stahl, and Julian Gomez-Cambroner, Polymorphonuclear Neutrophils Worsen Myocardia Ischemia/Reperfusion Injury through a PLD-dependent Mechanism, International Congress of Immunology, Melbourne, VIC, Australia - (Platform).

Ramya Ganesan** and Julian Gomez-Cambroner, Myocardial Ischemia/Reperfusion Injury through Involvement of Phospholipase D and mTOR, FASEB Research Conference (International) on Phospholipid Signaling in Cancer, Neurodegeneration and Cardiovascular Disease, Steamboat Springs, CO - (Poster).

Kristen Fite* and Julian Gomez-Cambroner, MicroRNA Regulation of PLD Expression During Starvation and Cancer Cell Invasion, FASEB Research Conference (International) on Phospholipid Signaling in Cancer, Neurodegeneration and Cardiovascular Disease, Steamboat Springs, CO - (Platform).

Taylor Miller and Julian Gomez-Cambroner, Activation of PARN Ribonuclease by Phosphatidic Acid (PA), FASEB Research Conference (International) on Phospholipid Signaling in Cancer, Neurodegeneration and Cardiovascular Disease, Steamboat Springs, CO - (Poster).

Dr. Craig

N.T. Hill, J. Zhang, A.J. Stacy, M.P. Craig and M. Kadakia, Novel Δ Np63 α up-regulated miRNA involved in EMT, 7th International p63/p73 Workshop, Massachusetts General Hospital, Boston, MA 04/22/2016 - 04/24/2016 (Poster).

A.J. Stacy, N.T. Hill, J. Zhang, M.P. Craig and M. Kadakia, Post-translational Regulation of Δ Np63 α by the Tip60 Histone Acetyltransferase, 7th International p63/p73 Workshop, Massachusetts General Hospital, Boston, MA 04/22/2016 - 04/24/2016 (Poster).

S. Sakaram, E.D. Grant, A.J. Whitlatch, N.T. Hill, M.P. Craig and M. Kadakia, JNK Regulation of Δ Np63 α , 7th International p63/p73 Workshop, Massachusetts General Hospital, Boston, MA 04/22/2016 - 04/24/2016 (Poster).

Dr. Kadakia

Reilly Clark, Jin Zhang, Natasha Hill, Michael Craig, Sangeeta Agrawal, Madhavi Kadakia, Differential Expression of microRNAs in Barrett's Esophagus, Celebration of Research 2016, Wright State University 4/16/2016 - 4/16/2016 (Platform).

Amjad Aljaghtmi, Natasha T. Hill and Madhavi Kadakia, Ph.D., Δ Np63 α indirectly modulates HIF1-AN via miRNA-31-5p, Celebration of Research 2016, Wright State University 4/15/2016 - 04/15/2016 (Platform).

Andrew J. Stacy, Natasha T. Hill, Jin Zhang, Michael Craig, and Madhavi Kadakia, Δ Np63 α and Tip60: Potential implications in cancer and aging, Celebration of Research 2016, Wright State University 4/15/2016 - 4/15/2016 (Platform).

Reilly Clark, Jin Zhang, Sangeeta Agrawal, Michael Craig, Madhavi Kadakia, Differential MicroRNA Signatures in Esophageal Cancer, Central Research Forum 2016, Boonshoft School of Medicine, WSU 10/13/2016 - 10/13/2016 (Platform).

Natasha T. Hill, Suraj Sakaram, Madhavi Kadakia, Ph.D., Δ Np63 α suppresses EMT by targeting Rac1 through miR320a, Central Research Forum 2016, Boonshoft School of Medicine, WSU 10/13/2016 - 10/13/2016 (Platform).

Reilly Clark, Jin Zhang, Sangeeta Agrawal, Michael Craig, Madhavi Kadakia, Differential MicroRNA Signatures in Esophageal Cancer, Women in STEMM Research Symposium 2016, College of Science and Math, WSU 10/21/2016 - 10/21/2016 (Platform).

Amjad Aljagthmi, Natasha T. Hill, Suraj Sakaram, Madhavi Kadakia, Ph.D., Δ Np63 α suppresses EMT by targeting Rac1 through miR320a, Women in STEMM Research Symposium 2016, College of Science and Math, WSU 10/21/2016 - 10/21/2016 (Platform).

Andrew J. Stacy, Tip60 regulation of Δ Np63 α : A role in cell cycle regulation, Wright State Biochemistry and Molecular Biology Summer Research Retreat, Gilbert's Party Barn 9/26/2016 - 9/26/2016 (Platform).

Andrew J. Stacy, Δ Np63 α and Tip60: Potential implications in cancer and aging, Wright State Biochemistry and Molecular Biology Brown Bag Seminar, WSU 9/13/2016 - 9/13/2016 (Platform).

Suraj Sakaram, Delineating Δ Np63 α function in Epithelial tissues, Wright State Biochemistry and Molecular Biology Brown Bag Seminar, WSU 2/10/2016 - 2/10/2016 (Platform).

Reilly Clark, Differential microRNA Expression in Esophageal Cancer, Wright State Biochemistry and Molecular Biology Brown Bag Seminar, WSU 9/20/2016 - 9/20/2016 (Platform).

Amjad Aljagthmi, Δ Np63 α indirectly modulates HIF1-AN via miRNA-31-5p, Wright State Biochemistry and Molecular Biology Brown Bag Seminar, Wright State University 4/12/2016 - 4/12/2016 (Platform).

Suraj Sakaram, Delineating Δ Np63 α 's function in Epithelial tissues, Wright State Biochemistry and Molecular Biology Brown Bag Seminar, WSU 10/16/2016 - 10/16/2016 (Platform).

Reilly Clark, Jin Zhang, Sangeeta Agrawal, Michael Craig, Madhavi Kadakia, Differential MicroRNA Expression in Esophageal Cancer, Biochemistry and Molecular Biology Annual Research Retreat, Gilbert's Party Barn 9/26/2016 - 9/26/2016 (Poster).

Reilly Clark, Differential MicroRNA Expression in Esophageal Cancer, Biochemistry and Molecular Biology Annual Research Retreat, Gilbert's Party Barn 9/26/2016 - 9/26/2016 (Platform).

Amjad Aljagthmi, Np63 suppresses EMT by targeting Rac1 through miR320a, Biochemistry and Molecular Biology Annual Research Retreat, Gilbert's Party Barn 9/26/2016 - 9/26/2016 (Platform).

Reilly Clark, Identification of microRNA Biomarkers in Esophageal Cancer, Biomedical Sciences PhD Program seminar presentation, WSU 11/14/2016 - 11/14/2016 (Platform).

Andrew J. Stacy, Natasha T. Hill, Jin Zhang, Michael Craig, and Madhavi Kadakia, Post-translational Regulation of Δ Np63 α by the Tip60 Acetyltransferase, 7th international p63/p73 workshop, Boston, MA 4/22/2016 - 4/24/2016 (Poster).

Sakaram, Suraj. Grant, Ed, Whitlatch AJ, Hill, Natasha, Craig, Michael, Kadakia, Madhavi, JNK regulation of Δ Np63 α , 7th international p63/p73 workshop, Boston, MA 4/22/2016 - 4/24/2016 (Poster).

Hill, Natasha, Zhang, Jin, Stacy, Andrew J., Craig, Michael, Kadakia, Madhavi, Novel DNp63a up-regulated miRNA involved in EMT, . 7th international p63/p73 workshop, Boston, MA 4/22/2016 - 4/24/2016 (Poster).

Dr. Leffak

Poudel, S., and Leffak, M., Interaction between DUE-B and Treslin in the Initiation of DNA Replication, Twentieth Annual Buffalo DNA Replication and Repair Symposium, SUNY Buffalo 5/5/2016 - 5/6/2016 (Platform).

Barthelemy, J., Hanenberg, H., and Leffak, M., FANCI is Essential for Genome-Wide Microsatellite Stability during Replication Stress, 18th Annual Midwest DNA Repair Symposium, OSU- James Cancer Center - (Poster).

Poudel, S., and Leffak, M., Interaction between DUE-B and Treslin in the Initiation of DNA Replication, 18th Annual Midwest DNA Repair Symposium, OSU- James Cancer Center - (Poster).

Gadgil, R., Lewis, T., and Leffak, Chromosome breakage at trinucleotide repeat sequences, 18th Annual Midwest DNA Repair Symposium, OSU- James Cancer Center - (Poster).

Dr. Long,

Lobna Elkhadragy, Minyi Chen and Weiwen Long, A regulatory triad consisting of BMI1, let-7i miRNA and ERK3 kinase in controlling cancer cell migration, American Association for Cancer Research annual conference, New Orleans 4-16-2016 - 4-20-2016 (Poster).

Hadel Alsarani, Lobna Elkhadragy and Weiwen Long, Functional characterization of ERK3 mutants existing in human cancers , American Association for Cancer Research annual conference, New Orleans 4-16-2016 - 04-20-2016 (Poster).

Lobna Elkhadragy, Minyi Chen, Weiwen Long, A regulatory triad consisting of BMI1, let-7i microRNA and ERK3 kinase in controlling cancer cell invasiveness, Women in STEMM Research Symposium, Wright State University 10-21-2016 - 10-21-2016 (Poster).

Hadel Alsarani, Lobna Elkhadragy, Weiwen Long, Cancer-related ERK3 mutations promote cancer cell invasiveness. , Women in STEMM Research Symposium, Wright State University 10-21-2016 - 10-21-2016 (Poster).

Hadel Alsarani, Lobna Elkhadragy and Weiwen Long, Functional characterization of ERK3 mutants existing in human cancers , Central Research Forum, Boonshoft School of Medicine, Wright State University 10-13-2016 - 10-13-2016 (Poster).

Hitham Aldharee and Weiwen Long, ERK3's role in regulating RhoGDI-PAK signaling axis in Cancer, Central Research Forum, Boonshoft School of Medicine, Wright State University 10-13-2016 - 10-13-2016 (Poster).

Brian Caprul, Lobna Elhadragy, Natasha Hill, Madhavi Kadakia, Weiwen Long, Identification and functional characterization of miRNAs regulated by ERK3 , BioSTAR/STREAMS ANNUAL POSTER SYMPOSIUM , Wright State University 8-4-2016 - 8-4-2016 (Poster).

Dr. Markey

M. Chen, W. Long, M. Kent, M. Markey, Regulation of ERK3 by BRAF/BRAFV600E in melanoma, Central Research Forum, Dayton, OH 10/13/2016 - 10/13/2016 (Poster).

M. Chen, W. Long, M. Kent, M. Markey, Regulation of ERK3 by BRAF/BRAFV600E in melanoma, Celebration of Research, Scholarship, and Creative Activities, Dayton, OH 4/15/2016 - 4/15/2016 (Poster).

P.C. Martis, A. Dudley, M.A. Laramore, H.L. Gazda, M.P. Markey, B.H. Smith, L.S. Gazda, Chemoresistant cancer stem cells undergo gene changes that drive tumor recurrence, AACR Annual Meeting, Washington, D.C. 4/1/2017 - 4/5/2017 (Poster).

Dr. Paliy

V. Shankar , M. Gouda, J. Moncivaiz, A. Gordon, N. Reo, L. Hussein, and O. Paliy, Distal gut microbiota structural, functional, and metabolite profiles differ between healthy adolescents from Egypt and USA, OBASM 2016, Mason, OH 04/08/2016 - 04/09/2016 (Poster).

L. Sooy, R. Agans, A. Gordon, D. Kramer and O. Paliy, Quantitative GC-MS analysis of short & long chain fatty acids, Annual American Medical Association Research Symposium , Orlando, CA 11/11/2016 - 11/11/2016 (Poster).

Dr. Ren

Abdullah Ali A Alshudukhi, Characterization of lipin1 deficient-EGFP tagged LC3 transgenic mice to further investigate the role of lipin1 in mitophagy pathway, WSU BMB Research Retreat, Gilbert's Party Barn, Dayton 9/26/2016 - 9/26/2016 (Platform).

Hongmei Ren, Lipid Metabolism in Cardiac and Skeletal Muscle Function and Disease, BMB Department faculty research presentation, Diggs Lab 262 8/26/2016 - 8/26/2016 (Platform).

Hongmei Ren, Lipid Metabolism in Cardiac and Skeletal Muscle Function and Disease, BMS Poster Walk, Diggs Lab 8/26/2016 - 8/26/2016 (Poster).

Dr. Reo

L. J. Prochaska, F. Elmigadi, H. Khader, K. M. Mohany, W. Fadd2, R. E. Aboukhalil, J. Paietta, N. Reo, M. Miller, G. Onady, J. Donnelly, D. Organisciak, A. Altwairgi, A. Alkadi, S. Aldamegh, and D. Parmelee, Implementation of the Molecular Basis of Medicine Course at Unaizah College of Medicine (UCM), Qassim University, Saudi Arabia from Boonshoft School of Medicine (BSOM), Wright State University: Analysis of Student Performance in 2014-2015, American Society of Biochemistry & Molecular Biology (ASBMB) Annual Meeting, San Diego, CA 4-1-2016 - 4-6-2016 (Poster).

D.A. Mahle, M.C. Moulton, M.E. Chapleau, A. Hoffman, N.V. Reo, J.M. Gearhart, M. Meade, Mechanistic Interpretation of Hypobaric and Hyperoxia in a Rat Model, 87th Annual Scientific Meeting of the Aerospace Medical Association, Atlantic City, NJ 4-24-2016 - 4-28-2016 (Poster).

I. Sibomana, N.J. DelRaso, D.R. Mattie, M.L. Raymer, and N.V. Reo, A Methodology to Enhanced Sensitivity of Urinary Metabolomics for Assessment of Kidney Function, Colloquium on Emerging Metabolomics-2016, Las Vegas, NV 7-25-2016 - 7-27-2016 (Platform).

A. Campo, B. Lecka-Czernik, and N.V. Reo, Effects of Diet on Lipid Composition in White, Brown, and Marrow Adipose Tissues in Mice, BSOM Central Research Forum, WSU 10-13-2016 - 10-13-2016 (Poster).

A. Obidan, E. Daniel, D. Wallace, and N.V. Reo, Urinary Metabolomics to Detect Polycystic Kidney Disease at an Early Stage, BSOM Central Research Forum, WSU 10-13-2016 - 10-13-2016 (Poster).

Dr. Todd

M. Miller, W. Romine, A. Todd, and B. Folk, Does knowledge and situational interest support personal interest: A health education study, Annual Meeting of the National Association of Research in Science Teaching, Baltimore, MD - (Poster).

W. Romine, E. Walter, A. Todd, Assessing, operationalizing, profiling evolution acceptance in college students, Annual Meeting of the National Association of Research in Science Teaching, Baltimore, MD - (Platform).

A. Todd, and W. Romine, Development and validation of the Learning Progression-based Assessment of Molecular Genetics (LPA-MG), Annual Meeting of the National Association of Research in Science Teaching, Baltimore, MD - (Platform).

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

Dr. Cambronero

Phospholipase D Signaling in Cancer and Ischemia/Reperfusion Injury, FASEB Research Conference on Phospholipid Signaling in Cancer, Neurodegeneration and Cardiovascular Disease, Steamboat Springs, CO, 6/20/2016 - 6/26/2016.

Dr. Kadakia

Changing the landscape of Undergraduate Education, Alumni College on Road, Tampa, FL, 9/10/2016.

Future of Biomedical Research: Its Implications on Personalized Medicine, Alumni College on Road, Tampa, FL, 9/10/2016.

Linking Biomedical Research to Biomarkers and Personalized Medicine, 2016 Central Research Forum, Boonshoft School of Medicine, WSU, 10/13/2016.

Upstream and Downstream regulators of DNp63a, 7th international p63/p73 workshop, Boston, MA, 4/22/2016 - 4/24/2016.

Vitamin D Receptor and cancer-Keynote, 43rd ISOBM Annual Congress; Towards precision Medicine from biomarker to novel Therapies , Chicago, IL, 9/1/2016 - 9/6/2016.

Dr. Leffak

Replication-Dependent Microsatellite Instability, At the Intersection of DNA Replication and Genome Maintenance, Trieste, Italy, 6/27/2016 - 7/1/2016.

Dr. Markey

CGR Update 2016, BMB Faculty Retreat, Dayton, OH, 8/25/2016.

Next Generation Sequencing at WSU, WSU Wright Brothers Day, Dayton, OH, 10/5/2016.

Technologies in Genomics and their Applications, Miami Valley Career Technology Center Biotechnology Day, Dayton, OH, 2/22/2016.

The Center for Genomics Research at WSU, WSRI Faculty Speaker Series, Dayton, OH, 06/09/2016.

The Center for Genomics Research at WSU, Research Roundtable on Childhood Obesity, Dayton, OH, 9/15/2016.

The Center for Genomics Research at WSU, VA Linking Meeting, Dayton, OH, 11/15/2016.

What's new at CGR, Cell Signaling Group, Dayton, OH, 03/15/2016.

Dr. Paliy

Microbiome research in Paliy laboratory, WSU Obesity Research Roundtable, Dayton, OH, 09/15/2016.

Role of intestinal microbiota in human health and disease, Miami University, Oxford, OH, 04/20/2016.

We are what we eat: associations between human diet and gut microbiota, University of Granada Nutrition Sciences PhD program, Granada, Spain, 11/17/2016.

Consultantships [sponsor activity]

Other recognition [e.g. editorships, reviewer awards]

Dr. Cambronero

Universidad de Valladolid (Spain)

Dr. Paliy

Ginkgo Bioworks

Wright State University (Boonshoft School of Medicine)

Dr. Markey

Boonshoft School of Medicine

6

Summary of Service Activities

Committee membership/officer [indicate if committee chair]

BMB committee service

Dr. Cambroner,

Faculty Search Committee
Promotion and Tenure Committee

Dr. Campbell

Undergraduate Lab Development
BS in BMB Program Development Committee
Departmental Development Committee
Holiday Party Committee

Dr. Craig

BMB Department Holiday Party Planning Committee

Dr. Kadakia

Faculty Search Committee

Dr. Leffak

BMB Faculty Development Committee

Dr. Long

Faculty Search Committee
MS Admissions Committee

Dr. Markey

BMB Holiday Party Committee
MS Admissions Committee
Research Retreat Committee

Dr. Paietta

BMB Faculty Search Committee
BMB M.S. Program Director

Dr. Paliy

Systems Biology Course Development committee

Dr. Reo

Undergraduate B.S. Degree Program Development Committee
ByLaws Committee, Chair
Department Faculty Development Committee
Faculty Search Committee, Chair
Undergraduate Curriculum Committee

Dr. Schmidt

Bylaws Committee
Departmental Curriculum Committee

Wright State University Boonshoft School of Medicine

BSOM Committee service

Dr. Kadakia

Associate Director for Center of Genomics Research
Member of the Student Promotion committee

Dr. Leffak

Faculty Curriculum Committee

Dr. Paietta

BI Committee
Foundations Leadership Committee
MBM Steering Committee
Origins 1 FCM Module Committee
WCSC (Wright Curriculum Steering Committee)

Dr. Reo

BSOM Curriculum Development Committee for Foundations Module 1
BSOM Faculty Promotion and Advancement Committee
LCME Self-Study Subcommittee 5
Milestones Leadership Committee
Steering Committee Member for MBM Course

Dr. Schmidt

Faculty Curriculum Committee

Wright State University Science and Math

Dr. Campbell

College of Science and Math Teaching Awards Committee
College of Science and Math Undergraduate Curriculum Committee
COSM Advisors meetings

Dr. Leffak

CoSM Faculty Development Committee
Undergrad Student Petitions Committee

Dr. Paietta

Graduate Studies Committee

Dr. Reo

CoSM Undergraduate Curriculum Committee (BMB Representative)

Wright State University Biomedical Sciences

BMS program committee member

Dr. Kadakia

BMS Academics Policies Committee

Dr. Long
Nominating committee

Dr. Markey
BMS Admissions Committee (Chair)

Dr. Paietta
Curriculum development Committee

Dr. Paliy
Curriculum Development committee

Wright State University

Dr. Kadakia
Faculty Senate

Dr. Long
IACUC member

Dr. Markey
Graduate Council BSOM faculty representative
Graduate Council Membership Committee

Dr. Paliy
University, WSU Institutional Biosafety committee

Dr. Reo
Faculty Senate
Research Council (Member, Representative from Faculty Senate)
Review Committee for University Seed Grants

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Patient Care Summary

Not applicable

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Honors and awards [Faculty or staff]

Awards

Dr. Cambronero

Travel Award for attending the International Congress of Immunology; received an Awarded Best poster presentation, FASEB Research Conference, received by Ramya Ganesan.

Received 2 invitations for oral presentations (AMA in Orlando and FASEB in Colorado), 6/26/16 and 11/10/16, This program is located at Orlando, FL and Steamboat Springs, CO.

Dr. Long

Outstanding Junior Faculty Award by Academy of Medicine, Wright State University, received by Dr. Long.

Dr. Paliy

Best Graduate Student Poster Presentation Award, OBASM 2016 conference, received by Alex Gordon.

Dr. Reo

BSOM Faculty Leadership Academy (I was invited to participate in this 9 month workshop to develop leadership skills). I gave a presentation to the Leadership group during the last week of the program in 2016., Sept 2015 thru May 2016, This program is located at WSU.

Symposia**Dr. Cambroner**

FASEB Research Conference on Phospholipid Signaling in Cancer, Neurodegeneration and Cardiovascular Disease, Chair of the Phospholipids in Cardiovascular Disease, 6/20/2016 - 6/26/2016, Steamboat Springs, CO. (Session Chair)

Dr. Kadakia

7th International p63/p73 workshop, Upstream and Downstream regulators of DNp63a, , Boston, USA. (Session Chair)

Dr. Long

WSU Cell Signaling Club Forum, ERK3 kinase signaling in cancer progression and metastasis, 01/01/2016 - 12/31/2016, Wright State University. (Co-Organizer)

Dr. Markey

The Role of Reference Material in Precision Medicine, NA, 3/22/2016, Online. (Invited Participant)

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Hosted events [CME, etc.]

Not applicable

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Other information

Outreach program**Dr. Markey**

Miami Valley Career Technology Center Biotechnology Day, 2/22/2016, This program is located at WSU.

Take Our Sons and Daughters To Work Day, 4/3/2016, This program is located at WSU.

Montgomery County Science Day, Intel International Science and Engineering Fair (I judged science fair projects for ISEF.), 3/5/2016, This program is located at Dayton, OH.

Dr. Leffak

Presented at the event hosted by American Cancer Society, November 2016