Department of Biochemistry and Molecular Biology

Annual Report

2014

Madhavi Kadakia, Ph.D.
Chair

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

• In the past year Dr. Leffak served as the interim chair in the department. The department conducted a national search for the department chair position and in December 2014, I was appointed chair effective Jan 1, 2015.

• In 2014 BMB faculty received 23 extramural and 5 intramural funded grants totaling nearly $1,768,000. This includes grants obtained by Drs. Paliy and Kadakia grant for next generation sequencing, RO1 grant funding from NIH obtained by Drs. Cambronero, Leffak and Kadakia and American Heart Association funding by Dr. Cambronero. In addition we continue to garner DoD funding through collaborations with Air force research laboratory, Dr Reo had five active DoD grants last year.

• BMB faculty continues to actively review grant proposals for national agencies such as American Heart Association, National Institute of health and US Army Medical Research Command panel and Career Development Fellowship, Prostate Cancer UK. In addition they serve on editorial boards as well as reviewers for various scientific journals.

• BMB faculty has served as chair of symposia at various national meetings. The faculty presented a total of 12 invited presentations locally, nationally and internationally. Finally the department faculty published a total of 30 peer reviewed manuscripts/book chapters.

• There were 2 Masters and 3 PhD students who graduated last year from the department.

• Dr. Heather Hostetler an Assistant professor has met all the criteria for promotion to Associate Professor and will be promoted to Associate professor effective Fall 2015.

• BMB faculty are actively involved in development of an undergraduate B.S.degree in BMB. Dr. Chad Campbell was hired as the first NTE in the beginning of Fall 2014 to help with that initiative. Last year we finalized the curriculum for the BMB undergraduate program and are now working on the learning objectives and syllabus for the new classes required for the major. The B.S. in BMB program will be designed with a focus on student engagement shown to impact student learning and retention. Methodologies such as automated response systems (clickers), process oriented guided inquiry learning (POGIL), peer instruction, mastery learning and problem based learning will be incorporated throughout the curriculum. The end goals are to help students learn to think more critically, to work well in groups, to be more metacognitive of their own thinking, and to build student confidence in their abilities.

• BMB faculty have been actively engaged in the on-going process of developing the new BSOM curriculum. Drs. Prochaska and Paietta are members of the Wright Curriculum Steering Committee (WCSC) which serves in an oversight role for the curriculum change process. Dr. Paietta serves as co-chair on the Foundations of Clinical Medicine (FCM) Committee which is making innovative changes to the first 2 years of the new curriculum and Dr. Reo serves as a member of the Milestones Committee which is charged with evaluating curricular objectives involved in the development of “the physician as a professional”. The Molecular Basis of Medicine (MBM) Steering committee, chaired by Dr. Prochaska, has worked to implement active learning strategies in the current BI course. Dr. Prochaska has also been involved in implementing the BSOM curriculum at the Unaizah College of Medicine.
2 Programs/Divisions

<table>
<thead>
<tr>
<th>Name of Division or Program</th>
<th>Director</th>
<th>Dates</th>
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<tbody>
<tr>
<td>BMB M.S. Program</td>
<td>Dr. Kadakia</td>
<td>2014</td>
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[Provide a description here of programs/divisions within the department including directors and participating faculty]

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

<table>
<thead>
<tr>
<th>Name and Academic Position</th>
<th>Research Interests</th>
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<tr>
<td>Dr. Cambronero</td>
<td>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).</td>
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<td>Dr. Campbell</td>
<td>This past year I have been the major contributor to the development of a BS in BMB program. In such, a program sheet has been developed outlining all necessary courses and requirements the BS students will have and these requirements have also been outlined in an example 4 year plan. As we will be seeing ASMBB accreditation, we have adopted their program learning objectives as our own. We are currently designing two new courses to be instituted prior to full program commencement as not only is there interest in developing them for our own program, but several other programs have conveyed interest in utilizing the courses once operational. In the next semester we intend to develop the course objectives, design course syllabi and submit for approval with the intention of starting these classes in next Spring.</td>
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Name and Academic Position | Research Interests
---|---
Dr. Hostetler | Although a variety of transcription factors must function both synergistically and antagonistically together in order to maintain a healthy body, how these factors interact with each other and their environment remains to be elucidated. My current focus is on the peroxisome proliferator-activated receptor alpha (PPARα) and its heterodimeric partners, the retinoid X receptor (RXR) and the liver X receptor (LXR), to determine how dietary nutrients (lipids and sugars) can lead to possible mis-regulation such as that seen in instances of diabetes. Our discoveries have suggested that these transcription factors function as nutrient sensors; sensing what nutrients are available and upregulating the appropriate genes to use those nutrients. We are currently working to determine: (i) How PPARα determines its choice of heterodimeric partners, (ii) What this choice means in terms of overall gene regulation, (iii) What happens to cause the improper regulation seen in diseased states, and (iv) What kind of compounds might function as potential therapeutics to reverse the detrimental effects of such diseased states.

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 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 miRNAs as potential 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.

Dr. Leffak | 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 fellows on their research projects. In addition, the PI has also been conducting experiments for developing new research projects in the lab.

2. Naveen Reddy Muppani, Ph.D., postdoctoral fellow, joined the lab on March 1, 2014.
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<td>and has been conducting a project about the role of ERK3 in regulating DNA damage repair and chemoresistance of lung cancer cells.</td>
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<td>3. Sreeram Vallabhaneni, a BMS Ph.D. graduate student, has been conducting a project on investigating the role of ERK3 in lung tumor growth and metastasis utilizing transgenic mouse models.</td>
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<td>4. Lobna Elkhadragy, a BMS Ph.D. graduate student, has been conducting projects on the molecular regulations of ERK3 gene expression and kinase activity in cancer cells.</td>
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<td>5. Hadel Mohammed A Alsaran, a Master student in our department, has been conducting a project on ERK3 gene mutations in cancer.</td>
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<td>Dr. Markey</td>
<td>I am continuing to follow my interest in regulation MDM4, a critical negative regulator of the tumor suppressor p53. Recently MDM4 has been recognized as an important potential therapeutic target in a variety of types of cancer. Understanding the mechanisms by which its expression is controlled in vivo is vital to informed design of clinical interventions to re-activate p53.</td>
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<td>Dr. Markey</td>
<td>My research also involves several projects through my role as Director of the Center for Genomics Research. These include a study of how the genes Btf, Son, and Trap control gene expression and influence pre-mRNA splicing, two studies on the gene expression of subpopulations of proprioceptive neurons, and a study looking at the effects of a low-light environment on gene expression in the retina. Additional contracted projects include flow cytometry for researchers at Cedarville University and UES, a Dayton-based biological research company.</td>
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<td>Dr. Markey</td>
<td>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.</td>
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<td>Dr. Organisciak</td>
<td>The Petticrew Laboratory is investigating the efficacy of natural substances and pharmacological compounds in preventing light-induced retinal visual cell loss and genetically based retinal cell degeneration in preclinical animal models of ocular disease. This work is or has been funded by grants from NIH, Alcon Ltd., the International Retina Research Foundation, and the Ohio Lions Eye Research Foundation. A recent finding relates to the ability of zinc, a divalent cation found in antioxidant preparations given for age related macular degeneration, to prevent retinal photoreceptor cell damage from intense visible light. Additional findings indicate that the antioxidants in a natural substance (Rosemary) are exceptionally effective in our light damage animal model, with a protective efficacy better than for more traditional antioxidants. Other studies show that rod and cone photoreceptor cell loss occur simultaneously in a strain of genetically blind animals.</td>
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<td>Dr. Paietta</td>
<td>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.</td>
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<td>Dr. Paliy</td>
<td>Areas of Research Interests:</td>
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<td>• Role of intestinal bacteria in human health and in gastrointestinal diseases such as IBD, IBS, and obesity.</td>
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<td>• Metabolic interactions in complex microbial communities.</td>
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<td>• Use of metabolic and mathematical modeling to study biological principles.</td>
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<td>• Methodologies used</td>
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<td>• Standard microbiology techniques</td>
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<td>Dr. Prochaska</td>
<td>Our laboratory studies the molecular mechanism of the transduction of cellular oxidation-reduction linked energy into chemical energy in heart and brain mitochondria and also bacteria. The conservation of chemical energy via ATP synthesis is the driving force for vital processes such as the beating of the heart and brain functioning. Our model system is cytochrome c oxidase which conserves the energy released during its reduction of molecular oxygen into water by simultaneously pumping protons across the mitochondrial inner membrane. This proton gradient is used by the cell to make its energy currency, ATP. We study structure function relationships in this evolutionarily conserved enzyme using state-of-the art membrane biochemical, biophysical, immunological, and molecular biological techniques, including preparation of artificial membranes or liposomes. The focus of our work involves studying the role of a conserved subunit (III) in the functioning of the enzyme. We have additional research interests in the role of mitochondria in normal and disease states and towards that goal have prepared mutant oxidase enzymes which mimic known mitochondrial respiratory chain diseases. More recently, we have studied the role of mitochondria in the apoptotic pathway of cell death in normal and diseased hearts.</td>
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<td>Dr. Reo</td>
<td>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.</td>
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<td>Dr. Rider</td>
<td>My FTE is &lt;10% but I volunteer many hours beyond that level. My time was divided among four major areas, including 1) A project designed to identify small molecule inhibitors for an unusual type of histone deacetylase from pathogenic microbes (malaria, toxoplasmosis, and cryptosporidiosis), 2) Understanding nuclear hormone receptors that also respond to nutrients to alter gene expression, 3) Genome analyses in arthropods, and 4) Assisting as needed in the center for genomics research performing cleaning and maintenance on the next generation sequencing machines. Area 2 is in collaboration with Dr. Hostetler to study human nuclear receptors that are involved in diabetes, immune function, and cancer. Area 3 represents my affiliation with the next generation sequencing machines that were acquired by Dr. Paliy and Dr. Kadakia in 2013.</td>
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<tr>
<td>Dr. Xu</td>
<td>Yong-jie Xu is an assistant professor in the Department of Biochemistry and Molecular Biology, Wright State University Boonshoft School of Medicine. He obtained his MD from Peking Union Medical College/Chinese Academy of Medical Sciences in Beijing and his PhD from The John Hopkins University School of Medicine in Baltimore. He did his postdoctoral research at Harvard Medical School, Harvard School of Public Health and the Memorial Sloan-Kettering Cancer Center. The research focus of his laboratory is to understand the signaling mechanism of the DNA replication checkpoint.</td>
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Teaching

Dr. Cambronero

Spring 2014
BMS 9970: BMS Lab Rotation Research, 6 credit hours, 1 student, Laboratory

Summer 2014
BMB 8990: Biochemistry Research, 12 credit hours, 2 students, Laboratory

Fall 2014
BMB 8990: Biochemistry Research, 10 credit hours, 2 students, total contact hours, Laboratory
BMB 9950: BMS Research, 14 credit hours, 2 students, Laboratory
BMB 9950: BMS Research, 15 credit hours, 2 students, Laboratory
BMS 9950: BMS Research, 8 credit hours, 2 students, Laboratory

Dr. Hostetler

Spring 2014
BMB 7520/BMS 7520: Biochemistry & Molecular. Biology II, 3 credit hours, 31 students, 17 total contact hours (12 lecture hours, 5 non-contact hours), Team taught, Classroom course, Course Director: Madhavi Kadakia, Taught 12 lectures on complex lipid synthesis and metabolism, membranes, and nuclear receptors whose ligands are lipids; gave 1 -2 hour review session, gave exam 3 (for the course), and participated in a team review for my part of the final.
BMS 9950: Non-dissertation Research, 12 credit hours, 1 student, Laboratory
BMS 9990: Dissertation Research, 14 credit hours, 1 student, Laboratory

Summer 2014
BMB 4990: Undergraduate Research, 5 credit hours, 1 student, Laboratory
BMS 8990: Biochemistry Research, 4 credit hours, 1 student, Laboratory
BMS 9950: Non-dissertation Research, 13 credit hours, 1 student, Laboratory
PHR 4990: Laboratory Research, 4 credit hours, 1 student, Laboratory

Fall 2014
BMS 9990: Dissertation Research, 14 credit hours, 1 student, Laboratory
Dr. Kadakia

Spring 2014
BMB 7520: Molecular Biochemistry II, 3 credit hours, 31 students, 19 total contact hours (13 lecture hours, 6 non-contact hours), Team taught, Classroom course, Course Director: Madhavi Kadakia, Course Director

BMB 8990: Biochemistry Research, .5 credit hours, 1 student, Laboratory
BMB 8990: Biochemistry Research, 6 credit hours, 1 student, Laboratory
BMB 8990: Biochemistry Research, 3.5 credit hours, 1 student, Laboratory
BMS 9990: Dissertation Research, 14 credit hours, 1 student, Laboratory

Summer 2014
BMB 8990: Biochemistry Research, 9 credit hours, 1 student, Laboratory
BMS 9990: Dissertation Research, 14 credit hours, 1 student, Laboratory

Fall 2014
BMB 7020: Research Perspectives, 3 credit hours, 7 students, 7 total contact hours (7 lecture hours, 0 non-contact hours). Classroom course, Course Director: Madhavi Kadakia, I was the course director and graded all the 5 assignments for the class to give the final grade.

BMB 8990: Biochemistry Research, 1 credit hour, 1 student, Laboratory
BMB 8990: Biochemistry Research, 4 credit hours, 1 student, Laboratory
BMS 9990: Dissertation Research, 14 credit hours, 1 student, Laboratory

Dr. Leffak

Spring 2014
BMB 4990: Undergraduate Research-Special Problems in Biochemistry, 1 credit hour, 1 student, Laboratory

BMB/BMS 7030: Research Ethics, .5 credit hours, 11 students, 10 total contact hours (8 lecture hours, 2 non-contact hours), Classroom course, Course Director: M. Leffak

BMB/BMS 7670: Molecular Basis of Inherited Disease, 3 credit hours, 8 students, 10 total contact hours (6 lecture hours, 4 non-contact hours), Team taught, Classroom course, Course Director: M. Leffak

BMS 9950: Non-dissertation Research, 11 credit hours, 2 students, Laboratory
BMS 9990: Dissertation Research, 8 credit hours, 1 student, Laboratory
BMS 9990: Dissertation Research, 15 credit hours, 1 student, Laboratory

**Summer 2014**
BMB 4990: Undergraduate Research-Special Problems in Biochemistry, 3 credit hours, 1 student, Laboratory

BMS 9990: Dissertation Research, 9 credit hours, 1 student, Laboratory

BMS 9990: Dissertation Research, 15 credit hours, 1 student, Laboratory

BMS 9950: Non-dissertation Research, 15 credit hours, 2 students, Laboratory

BMB/BMS 7500: Molecular Biochemistry, 3 credit hours, 40 students, 27 total contact hours (21 lecture hours, 6 non-contact hours), Team taught, Classroom course, Course Director: M. Leffak

**Fall 2014**
BMS 9990: Dissertation Research, 8 credit hours, 1 student, Laboratory

BMS 9990: Dissertation Research, 14 credit hours, 1 student, Laboratory

BMS 9950: Non-dissertation Research, 14 credit hours, 2 students, Laboratory

**Dr. Long**

**Spring 2014**
BMS 9950: Non-Dissertation Research, 11 credit hours, 9 students, Laboratory

BMS 9960: Laboratory Rotation I, 4 credit hours, 2 students, Laboratory

**Summer 2014**
BMB 7890 C01: Continuing Registration, 9 credit hours, 1 student, Laboratory

BMS 9950 C15: Non-Dissertation Research, 15 credit hours, 13 students, Laboratory

**Fall 2014**
BMS 9950 14: Non-Dissertation Research, 14 credit hours, 13 students, Laboratory

BMB 8990 08: Biochemistry Research, 8 credit hours, 1 student, Laboratory

**Dr. Markey**

**Spring 2014**
BMB 7670/BMS 7670: Molecular Basis of Inherited Diseases, 3 credit hours, 8 students, 8 total contact hours (3 lecture hours, 5 non-contact hours), Team taught, Classroom course, Course Director: Michael Leffak, I taught one week of the course, with a subject of melanoma. I also helped with student presentations and grading.

BMB 8990 01: Biochemistry Research, 3.5 credit hours, 2 students, Laboratory
Summer 2014
BMB 7650: Computational Tools and Strategies in Biomedical Sciences, 2 credit hours, 9 students, 6.3 total contact hours (2.3 lecture hours, 4 non-contact hours), Team taught, Classroom course, Course Director: Oleg Palii, I taught one course on array-based cytogenetic. I also assigned and graded homework for my lecture.

BMB 8990 01: Biochemistry Research, 8 credit hours, 2 students, Laboratory

Fall 2014
BMB 7020: Research Perspectives in BMB, 3 credit hours, 7 students, 2 total contact hours (1 lecture hours, 1 non-contact hour), Team taught, Classroom course, Course Director: Madhavi Kadakia, I taught one lecture for this course.

BMB 8990 01: Biochemistry Research, 1 credit hour, 1 student, Laboratory

BMB 8990 04: Biochemistry Research, 4 credit hours, 1 student, Laboratory

Dr. Organisciak
Spring 2014
BMB 3230/4230: Biochemistry II, 33 credit hours, 3/37 students, 12 total contact hours (10 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: J. Paietta, Lectures on lipid metabolism

Fall 2014
BMB 4210: Biochemistry I, 3 credit hours, 69 students, 7 total contact hours (5 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: O. Palii, Lectures on acid/base

BIO 4950: Senior Honors Research, 4 credit hours, 1 student, Laboratory

Dr. Paietta
Spring 2014
BMB 3230: BMB for Clinical Lab Science, 3 credit hours, 3 students, 16 total contact hours (9 lecture hours, 7 non-contact hours), Team taught, Classroom course, Course Director: John Paietta. Lectured primarily on topic of amino acid metabolism

BMB 4230: Biochemistry II, 3 credit hours, 37 students, 16 total contact hours (9 lecture hours, 7 non-contact hours), Team taught, Classroom course, Course Director: John Paietta. I taught section primarily on amino acid metabolism.

BMB 7670: Molecular Basis of Inherited Disease, 3 credit hours, 8 students, 3 total contact hours (3 lecture hours, 0 non-contact hours), Team taught, Classroom course, Course Director: Michael Leffak. I taught material on genetic disorders of amino acid metabolism. Is cross-listed as BMS 7670.

BMB 8000: Biochemistry Brown Bag, 1 credit hour, 14 students, Team taught, Seminar
Dr. Paliy

Spring 2014
BMB 4230: Biochemistry II, 3 credit hours, 37 students, 12 total contact hours (9 lecture hours, 3 non-contact hours), Team taught, Classroom course, Course Director: John Paietta, Taught about a third of the course

BMB 4990: Undergraduate Research, 2 credit hours, 1 student, Laboratory

BMB 8990: Biochemistry Research, 7 credit hours, 1 student, Laboratory

BMS 9960: Laboratory Rotation, 5 credit hours, 1 student, Laboratory

BMS 9960: Laboratory Rotation, 3 credit hours, 1 student, Laboratory

BMS 9990: Dissertation research, 14 credit hours, 1 student, Laboratory

BMS 9990: Non-dissertation research, 15 credit hours, 1 student, Laboratory

BMB 9000: Advanced Seminar in Biochemistry, 1 credit hour, 7 students, Seminar

Summer 2014
BMS 7650: Comp Tools and Strategies, 2 credit hours, 9 students, 15 total contact hours (15 lecture hours, 0 non-contact hours), Team taught, Classroom course, Course Director: Oleg Paliy. I taught half of the class.

BMB 8990: Biochemistry Research, 12 credit hours, 1 student, Laboratory

BMB 8990: Biochemistry Research, 4 credit hours, 1 student, Laboratory

BMS 9990: Dissertation research, 15 credit hours, 1 student, Laboratory

BMS 9990: Non-dissertation research, 15 credit hours, 1 student, Laboratory

Fall 2014
BMB 4210: Biochemistry I, 5 credit hours, 69 students, 10 total contact hours (6 lecture hours, 4 non-contact hours), Team taught, Classroom course, Course Director: Oleg Paliy. 6 lectures, proctored 2 exams, 1 review session.

BMB 8990: Biochemistry Research, 1 credit hour, 1 student, Laboratory

BMS 9990: Dissertation research, 14 credit hours, 1 student, Laboratory

BMS 9990: Non-dissertation research, 15 credit hours, 1 student, Laboratory
Dr. Prochaska

Spring 2014
BMB 3230: Biochemistry II 3230, 3 credit hours, 3 students, 5 total contact hours (4 lecture hours, 1 non-contact hours), Team taught, Classroom course, Course Director: J. Paietta, thermo, intro to metabolism, carbo structure,

BMB 4230: Biochemistry II - 4230, 4 credit hours, 37 students, 5 total contact hours (4 lecture hours, 1 non-contact hour), Team taught, Classroom course, Course Director: Prochaska, thermodynamics, intro to metabolism, carbo structure

BMB 4990: Undergraduate Honors Research, 3 credit hours, 1 student, Laboratory

BMB 7670: Molecular Basis of Inherited Diseases, 3 credit hours, 7 students, 7 total contact hours (6 lecture hours, 1 non-contact hour), Team taught, Classroom course, Course Director: M. Leffak, Mitochondrial Myopathies

BMS 8990: Biochemistry Research, 16 credit hours, 1 student, Laboratory

BMB 8990: Biochemistry Research, 8 credit hours, 1 student, Laboratory

Summer 2014
BMB 8990: Biochemistry Research, 1 credit hour, 1 student, Laboratory

BMS 8990: Biochemistry Research, 16 credit hours, 1 student, Laboratory

Fall 2014
BMB 4990: Undergraduate Honors Research, 2 credit hours, 1 student, Laboratory

BMS 8990: Biochemistry Research, 1 credit hour, 1 student, Laboratory

BMS 8990: Biochemistry Research, 16 credit hours, 1 student, Laboratory

BMB 8000: Biochemistry Brown Bag, 1 credit hour, 6 students, Seminar

Dr. Reo

Spring 2014
BMB 7010: Special Topics in Biochemistry & Molecular Biology (Fund. Prin. NMR Spectro.), 1 credit hour, 2 students, 20.5 total contact hours (14 lecture hours, 6.5 non-contact hours), Classroom course, Course Director: Nicholas V. Reo, In addition to lectures, I prepared and graded 7 homework assignments, gave 2 review sessions (1 hour each), and gave 2 exams (2 hours + 2.5 hours).

BMB/BMS 7520: Biochemistry & Molecular Biology II, 3 credit hours, 31 students, 18 total contact hours (13 lecture hours, 5 non-contact hours), Team taught, Classroom course, Course Director: M. Kadakia, In addition to lectures I contributed to one homework assignment, 1
recitations, and 2 exams. Thus the non-lecture contact hours include: 1-hour recitation + (2 x 2-hours exams) = 5 hours.

BMB 8990: Biochemistry Research, .5 credit hours, 1 student, Laboratory

BMS 9950: Non-Dissertation Research, 13 credit hours, 1 student, Laboratory

**Summer 2014**
BMB 8990: Biochemistry Research, 4 credit hours, 1 student, Laboratory

BMS 9990: Dissertation Research, 15 credit hours, 1 student, Laboratory

**Fall 2014**
BMB 8990: Biochemistry Research, 1 credit hour, 1 student, Laboratory

BMS 9990: Dissertation Research, 14 credit hours, 1 student, Laboratory

BMB 9000: Biochemistry Seminar, 1 credit hour, 5 students, 1 total contact hour, Seminar

Dr. Xu

**Spring 2014**
BMS 9990: Dissertation Research, 15 credit hours, 1 student, Laboratory

**Summer 2014**
BMS 9990: Dissertation Research, 15 credit hours, 1 student, Laboratory

**Fall 2014**
BMS 7500/BMB7500: Molecular Biochemistry I, 3 credit hours, 40 students, 27 total contact hours (21 lecture hours, 6 non-contact hours), Team taught, Class room course, Course Director: Dr. Michael Leffak, I taught the first and the second sections of this course.

BMS 9990: Dissertation Research, 14 credit hours, 1 student, Laboratory
Graduate students, including thesis supervision [master’s, doctor’s post-doctoral]

**Dr. Cambronero**
Ramya Ganesan, M.S.
Kristen Fite, M.D./Ph.D.
Poornima Kothalakshminaraya, Ph.D.
Madhu Mahankali, Ph.D.

**Dr. Hostetler**
Emily Delman, M.S.
Victoria Dershem, M.S.
Andrea Klinger (Davis), M.S.
Shimpi Bedi, Ph.D.
Dhawal Oswal, Ph.D.

**Dr. Kadakia**
Amal Albati, M.S.
Andrew Stacy, M.S.
Surah Sakaram, M.S.
Natasha Hill, Ph.D.

**Dr. Leffak**
Joanna Barthelemy, Ph.D.
Tu Danh, Ph.D.
Todd Lewis, Ph.D.
Sumeet Poudel, Ph.D.

**Dr. Long**
Hadel Mohammed A. Alsaran, M.S.
Lobna Elkhadragey, Ph.D.
Sreeram Vallabhaneni, Ph.D.
Dr. Markey
Ahmed Mahas, M.S.
Alex Gordon, M.S.
Keerti Potluri, M.S.

Dr. Paliy
Jessica Moncivaiz, M.S.
Richard Agans, Ph.D.
Vijay Shankar, Ph.D.

Dr. Prochaska
Khadijeh Alnajjar, Ph.D.
Kelli Fisher, M.S.

Dr. Reo
Urszula Warncke, M.S.
Isaie Sibomana, Ph.D.

Dr. Xu
Amanpreet Singh, Ph.D.
Graduate Student

Graduate Student Committee Member:
Dr. Hostetler
Amal Albati, M.S.
Urszula Warncke, M.S.
Richard Agans, Ph.D.
Khadijeh Alnajjar, Ph.D.
Natasha Hill, Ph.D.
Anil Karumuri, Ph.D. (Engineering)
Jeannette Loyer, Ph.D.
Andrew Snyder, Ph.D.
Ryan Yoakum, Ph.D.
Dr. Kadakia
Lobna Elkhadragy, Ph.D.
Jeannette Loyer-Manger, Ph.D.
Sreeram Vallabhaneni, Ph.D.
Richard Pye, Ph.D.

Dr. Leffak
Andy Koesters, Ph.D.
Rick Salisbury, Ph.D. (Pharm/Tox)
Amanpreet Singh, Ph.D.

Dr. Long
Ahmed Mahas, M.S.
Stacy, Andrew, M.S.
Danh, Tu, Ph.D.

Dr. Markey
Nouf Alharbi, M.S.
Hima Yalamanchili, Ph.D.

Dr. Paietta
Salmin Ali, M.S.
Tu Danh, Ph.D.

Dr. Prochaska
Ryan Yoakum, Ph.D.

Dr. Reo
Kelli Fisher, M.S.
Bradley Gregg, M.S.
Shimpi Bedi, Ph.D.
Marjorie Markopoulos, Ph.D.
Richard Pye, Ph.D.
Vijay Shankar, Ph.D.
Hima Yalamanchili, Ph.D.

Dr. Rider
Andrea Klingler (Davis), M.S.
Dr. Xu
Amal Albati, M.S.
Keerti Potluri, M.S.
Joanna Barthelemy, Ph.D.
Todd Lewis, Ph.D.
Sumeet Poudel, Ph.D.

**Undergraduate medical education** [medical school]

**Dr. Cambronero**
SMD 521: CTOS, 5 credit hours, 106 students, 7 total contact hours (5 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: Dr. Larry Ream, lecturer

SMD 551: Hematology, 3 credit hours, 106 students, 26 total contact hours (6 lecture hours, 20 non-contact hours), Team taught, Classroom course, Course Director: Julian Cambronero, lecturer and director

**Dr. Organisciak**
SMD 571: Molecular Basis of Medicine, 10 credit hours, 111 students, 20 total contact hours (16 lecture hours, 4 non-contact hours), Team taught, Classroom course, Course Director: L. Prochaska, Lipid metabolism/cholesterol metabolism/summary of metabolic

**Dr. Paietta**
SMD 571: Molecular Basis of Medicine, 10 credit hours, 111 students, 27 total contact hours (24 lecture hours, 3 non-contact hours), Team taught, Classroom course, Course Director: Lawrence Prochaska, Lecturer 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 (review session) in Spring 2014.

**Dr. Prochaska**
SMD 571: Molecular Basis of Medicine in Saudi Arabia, 10 credit hours, 78 students, 13 total contact hours (12 lecture hours, 1 non-contact hour), Team taught, Classroom course, Course Director: F. Elmigdadi, I traveled to KSA to give these lectures and oversee the start of their course. I taught both men and women students for about 10 days

SMD 571: Molecular Basis of Medicine, 0 credit hours, 5 students, 5 total contact hours (3 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: Lawrence Prochaska, remediation for MBM course; 2 hour lecture review and 1 hour question. 2 hours for exam

SMD 571: Molecular Basis of Medicine, 10 credit hours, 111 students, 26 total contact hours (18 lecture hours, 8 non-contact hours), Team taught, Classroom course, Course Director: Lawrence Prochaska. I taught thermodynamics, proteins, blood, hemoglobin, and enzymes.

**Dr. Reo**
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. I conducted a 2 hour review class for students who needed to remEDIATE the course. Then I submitted questions for a remediation exam that was given in June 2014.

SMD 571: Molecular Basis of Medicine, 10 credit hours, 111 students, 20 total contact hours (18 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: Lawrence Prochaska, (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-hour review sessions (listed as non-lecture hours).
(5) Prepared and conducted two (2) “Think-Pair-Share” peer-Instruction sessions (80 min/each).
(6) Prepared and conducted 6 clicker sessions to aid in review of materials.

**Graduate medical education** [residents, fellows]
N/A

**Continuing medical education** [grand rounds, seminars]
N/A

**Other**
N/A
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]

Extramural Grants Active

Dr. Cambronero

American Heart Association, GTPase activation and reactive oxygen production in ischemic/reperfusion injury, P.I. Julian G. Cambronero, (1/1/2014 to 12/31/2014) Total $250,000, Direct Current Year $240,000, Indirect Current Year $10,000, Total cost for entire grant period $250,000.

NIH, Mechanism of PLD activation: Role on phagocyte chemotaxis, P.I. Julian G. Cambronero, (1/1/2014 to 12/31/2014) Total $355,803, Direct Current Year $253,484, Indirect Current Year $102,319, Total cost for entire grant period $355,803, 20% salary for Dr. Cambronero.

American Heart Association-Predoctoral, Molecular characterization of a new Phospholipase D splice variant expressed in neutrophils, P.I. Madhu Mahankali, (1/1/2014 to 12/31/2014) Total $62,000, Direct Current Year $62,000, Total cost for entire grant period $62,000.

Dr. Kadakia


NIH R01, Role of DNp63alpha in Vitamin D mediated cell survival in skin cancer, P.I. , (4/1/2012 to 3/31/2017) Total $263,377, Direct Current Year $180,396, Indirect Current Year $82,981, Total cost for entire grant period $138,2833, 33% salary for Dr. Kadakia.

Dr. Leffak

NIH, Analysis of the Human c-myc Gene Replication Origin, P.I. Ira Leffak, (8/01/2009 to 7/31/2014) Total $126,000, Direct Current Year $126,000, Total cost for entire grant period $301,889.

NIH, Second-site genetic modifiers of CTG/CAG microsatellite stability, P.I. Ira Leffak, (5/1/2012 to 4/30/2016) Total $192,216, Direct Current Year $126,666, Indirect Current Year $65,550, Total cost for entire grant period $1,109,600, 15% salary for Dr. Leffak.

Dr. Markey

Cedarville University, Cell Cycle Profiling by Flow Cytometry, P.I. Michael Markey, (7/1/2014 to 7/31/2014) Total $337, Direct Current Year $228, Indirect Current Year $109, Total cost for entire grant period $337, 0.25% salary for Dr. Markey.

Universal Energy Systems, Inc., Flow Cytometry for Detection of Live E. Coli, P.I. Michael Markey, (2/1/2014 to 7/1/2014) Total $754, Direct Current Year $550, Indirect Current Year $204, Total cost for entire grant period $754, 0.5% salary for Dr. Markey.

NIH, Signaling Mechanism of the DNA Replication Checkpoint, P.I. Yongjie Xu, (4/1/2015 to 5/30/2020) Total $0, Direct Current Year $0, Indirect Current Year $0, Total cost for entire grant period $0.
Dr. Organisciak

Ohio Lions Eye Research Foundation, Antioxidants and Retinal Gene Expression Profiles, P.I. (11/01/2014 to 7/1/2015) Total $7,500, Direct Current Year $7,500, Indirect Current Year $0, Total cost for entire grant period $7,500.

Ohio Lions Eye Research Foundation (OLERF), Antioxidants and Retinal Gene Expression Profiles, P.I. Daniel Organisciak, (07/01/2013 to 06/30/2014) Total $5,000, Direct Current Year $5,000, Indirect Current Year $0, Total cost for entire grant period $10,000.


Dr. Paily

NIH, Discovery of germline genes and regulatory networks in planarians, P.I. Labib Rouhana.

Procter & Gamble, Human microbiome research, P.I., (9/1/2011 to 8/30/2016) Total $7,565, Direct Current Year $7,565, Indirect Current Year $0, Total cost for entire grant period $37,825.

NSF MRI, MRI: Acquisition of Ion Torrent Personal Genome Machine to establish high-throughput sequencing capability for ecological and environmental biology, P.I. , (9/1/2013 to 8/30/2015) Total $88,071.5, Direct Current Year $88,071.5, Indirect Current Year $0, Total cost for entire grant period $176,143.

Dr. Reo


DoD, Henry Jackson Foundation for the Advancement of Military Medicine, NMR-based metabolomics analysis of sera samples in an animal model of sleep deprivation (Phase 1), P.I. Nicholas V. Reo, (3/1/2014 to 7/15/2014) Total $18,210, Direct Current Year $12,304, Indirect Current Year $5,906, Total cost for entire grant period $18,210, 15% salary for Dr. Reo.

DoD, Henry Jackson Foundation for the Advancement of Military Medicine, NMR-based metabolomics analysis of sera samples in an animal model of sleep deprivation (Phase 2), P.I. Nicholas V. Reo, (12/1/2014 to 3/31/2015) Total $4,909, Direct Current Year $3,317, Indirect Current Year $1,592, Total cost for entire grant period $19,638, 8% salary for Dr. Reo.

DoD, Henry Jackson Foundation for the Advancement of Military Medicine, NMR-based metabolomics for detection and assessment of jet fuel exposure in a rat model, P.I. Nicholas V. Reo, (12/1/2014 to 3/31/2015) Total $11,365, Direct Current Year $7,679, Indirect Current Year $3,686, Total cost for entire grant period $45,458, 15% salary for Dr. Reo.

DoD, Air Force Research Lab, Henry M Jackson Foundation for Advancement of Military Medicine, Inc., NMR-Based Metabolomics in Aerospace Physiology and Toxicology Research, P.I. Nicholas V. Reo, (9/1/2013 to 2/28/2014) Total $9,947, Direct Current Year $6,813, Indirect Current Year $3,134, Total cost for entire grant period $14921.

Dr. Rider

NSF, MRI, DBI, Acquisition of Ion Torrent Personal Genome Machine to establish high-throughput sequencing capability for ecological and environmental biology, P.I. Oleg Paliy, (09/01/2013 to 08/30/2015), 4% salary for Dr. Rider.

Wright State University Foundation, Blue Beetle Genome Project, P.I. Stanley Dean Rider Jr., (8/25/2014 to 8/25/2016) Total $1,800, Direct Current Year $1,800, Indirect Current Year $0, Total cost for entire grant period $2,359.80.
Internal Grants Active

Dr. Hostetler

Emerging Science Seed Grant Program BSOM, Nuclear Receptor Heterodimerization, P.I., (7/1/2013 to 6/30/2014) Total $3500, Direct Current Year $3500, Indirect Current Year $0, Total cost for entire grant period $12,500.

Dr. Kadakia

Boonshoft School of Medicine and Dayton VA hospital, Circulating microRNAs as biomarkers for early detection of esophageal adenocarcinoma in patients with Barrett’s esophagus., P.I. , (8/1/2013 to 7/31/2014) Total $12,500, Direct Current Year $12,500, Indirect Current Year $0, Total cost for entire grant period $25,000.

Dr. Palii

BSoM ES SG, Gut microbiota in children of developing world, P.I., (7/1/2013 to 6/30/2014) Total $6,603, Direct Current Year $6,603, Total cost for entire grant period $13,205.

Dr. Prochaska

Provost Office/Teaching innovation grants, Concept-Driven Learning ~ A Laboratory Course in Biochemistry and Molecular Biology In Support of A New Undergraduate Degree Program, P.I. Lawrence Prochaska/Michael Leffak, Total $6,000, Direct Current Year $6,000, Indirect Current Year $0, Total cost for entire grant period $6,000.

Unaizah College of Medicine -BSOM contract, UCM-BSOM Curriculum Contract, P.I. Parmelee, (1/1/2013 to 1/1/2016) Total $24,000, Direct Current Year $24,000, Indirect Current Year $0, 15% salary for Dr. Prochaska.

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

Dr. Cambronero


Dr. Hostetler


Dr. Kadakia


Dr. Leffak

Dr. Long

Dr. Organisciak

Dr. Paietta
J. V. Paietta, 'Regulation of Sulfur Metabolism in Filamentous Fungi', The Mycota.III. Biochemistry and Molecular Biology.

Dr. Paliy


O. Paliy, V. Shankar, and M. Sagova-Mareckova, 'Phylogenetic microarrays', Book chapter in "Bioinformatics and Data Analysis in Microbiology".


Dr. Prochaska


Dr. Reo


Dr. Rider


Dr. Xu


Adjunct/Voluntary Faculty Published Articles

Dr. Dennis

Dr. Naik


Dr. Seybold


Books, chapters, reviews

Ad Hoc Reviewer

Dr. Cambronero

BBA (1)
FASEB J (1)
FEBS Letters (1)
J Leukocyte Biol (2)
Journal Biological Chemistry (3)
Molecular Oncology (1)

Dr. Campbell

Cell Biology Education (CBE) Lifesciences (2)
Dr. Hostetler
African Journal of Biotechnology (1)
Lipids (2)
Molecules (1)

Dr. Kadakia
Cell Death and Disease (1)
Food and Chemical Toxicology (1)
PLoS One (2)

Dr. Leffak
Bioessays (1)
Experimental Cell Research (2)
Journal of Biological Chemistry (14)
Molecular and Cellular Biology (1)
Nucleic Acids Research (9)
PLOS Genetics (6)
PLoS One (2)

Dr. Long
Anti-Cancer Drugs (2)
Biochemical Systematics and Ecology (1)
Cancer Letters (1)
Irish Journal of Medical Science (2)
Molecular Biology Reports (2)
Plos One (1)

Dr. Markey
Cancer Biomarkers (2)

Dr. Organisciak
Experimental Eye Research (1)
Investigative Ophthalmology and Visual Science (IOVS) (1)
JAMA Ophthalmology (1)
Molecular Vision (2)
PLOSone (1)

Dr. Paietta
Current Genetics (1)
Dr. Paliy
Applied Environ Microbiol (1)
Immunology Letters (1)

Dr. Prochaska
Immunology Letters (1)
Biochimica Biophysica acta (1)
Biochimie (1).

Published abstracts

Abstracts/Presentations at Conferences

Dr. Cambronero


Dr. Hostetler


S.V. Wooten, A.M. Davis, and H.A. Hostetler, The hPPARα/hLXRα heterodimer has a preferential binding affinity to the 4N spacer sequence in the response element, STREAMs Poster Symposium, Wright State University, Dayton, OH 7/28/2014 - 7/28/2014 (Poster).

S. Bedi, G. Hines, S.D. Rider, Jr., and H.A. Hostetler, Medium chain fatty acids as preferential endogenous ligands of LXRα, Boonshoft School of Medicine Central Research Forum, Dayton, OH 10/16/2014 - 10/16/2014 (Poster).

S. Bedi, G. Hines, S.D. Rider, Jr., and H.A. Hostetler, Medium chain fatty acids as preferential endogenous ligands of LXRα, 29th Meeting of the Ohio Physiological Society, Miami University, Miami OH 10/18/2014 - 10/18/2014 (Poster).

Dr. Kadakia
Hill NT, Kadakia MP, Differential Effects of 1,25-dihydroxyvitamin D3 Dose on Keratinocyte Proliferation and Np63 Stabilization, Biomedical Sciences PhD program Retreat, Wright State University 8/20/2014 - 8/20/2014 (Platform).

Hill NT, Kadakia MP, Role of vitamin D receptor/VD3 in the regulation of Np63, Biomedical Sciences PhD program Seminar series, Wright State University 4/1/2014 - 4/1/2014 (Platform).
Kadakia, MP, Uncovering the Molecular Mechanisms of Epithelial Cancers: From Bench to Bedside, Executive Committee Meeting, Wright State University 12/11/2014 - 12/11/2014 (Platform).


Hill NT, Leonard MK, Grant ED and Kadakia MP, Np63 represses nuclear translocation of PTEN by inhibition of NEDD4-1 in keratinocytes, Celebration of Research, Wright State University 4/1/2014 - 4/1/2014 (Poster).

Dr. Leffak


Joanna Barthelemy, Guoqi Liu, Xiaomi Chen and Michael Leffak, ABNORMAL DNA REPLICATION CAUSES INSTABILITY AT HUMAN MICROSATELLITE DNA, FASEB Meeting- Dynamic DNA Structures, Itasca (Chicago), Ill. 7/20/2014 - 7/25/2014 (Poster).


Dr. Organisciak

Dr. Paliy


Dr. Prochaska


Dr. Reo


U. Warncke, B. Lecka-Czernik and N.V. Reo, Effects of High Fat Diet and Anti-Diabetic Drugs on Bone Marrow Lipid Composition in Mice, Central Research Forum, Wright State University  10/16/2014 - 10/16/2014 (Poster).


Dr. Rider


S. Bedi, G. Hines, S. D. Rider Jr., and H. A. Hostetler, Medium chain fatty acids as preferential endogenous ligands of LXR, Boonshoft School of Medicine Central Research Forum, Dayton, OH 10/16/2014 - 10/16/2014 (Poster).


Dr. Xu


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

Dr. Cambronerro
PLD and cancer, Universidad Internacional Menendez Pelayo, Santander, Spain, 7/22/2014 - 7/24/2014.


PLD, inflammation and infection, Universidad Internacional Menendez Pelayo, Santander, Spain, 7/22/2014 - 7/24/2014.


Writing your first Grant (for junior faculty), SLB Professional Development Workshop, Salt Lake City, 10/23/2014 - 10/25/2014.

Dr. Kadakia
Dr. Kadakia, Feedback regulation between p63 and VDR signaling pathway, Emory University, Atlanta, Georgia, Emory University, Atlanta, Georgia, 10/2/2014 - 10/3/2014.

Role of p63 in development and Tumorigenesis, University of Pittsburgh, Pennsylvania, University of Pittsburgh, 3/14/2014.

Dr. Organisciak
Dr. Paliy  
Dr. Paliy, Human intestinal microbiota: partners for life, Ohio State University, OSU, OH, 6/4/2014.


Dr. Prochaska  
Lectures in Molecular Basis of Medicine, Unaizah College of Medicine, Unaizah, Kingdom of Saudi Arabia, 11/15/2014 - 11/23/2014.

Dr. Rider  

Consultantships [sponsor activity]

Dr. Cambronero  
Salk Institute, La Jolla, CA  
University of Louisville, KY

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

- N/A

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Summary of Service Activities

Student advising

- N/A

Committee membership/officer [indicate if committee chair]

Dr. Cambronero

- Society for Leukocyte Biology, Membership Task Force
- Society for Leukocyte Biology, Professional Development Committee (Chair)

Dr. Hostetler

- Nuclear Receptor Research, Editorial Board Member

Dr. Kadakia

- Associate Member in the American Association of Cancer Researchers
Dr. Leffak
- Elected Fellow, AAAS (Since 2008)
- Editorial board member- DNA Repair
- Dr. Leffak, Editorial board member- Journal of Biological Chemistry

Dr. Markey
- Wright State University Center for Genomics Research (Director)
- Molecular Oncology Diagnostics, LLC (Laboratory Director)

Dr. Organisciak
- Board of Trustees Sinclair Community College Biotechnology Program (Since 2003)
- Scientific Advisory Board, Ohio Lions Eye Research Foundation (Since 2008)

Dr. Prochaska
- Board of Directors, American Heart Association, Miami Valley, Dayton, OH
- President, American Heart Association, Dayton Metro area (2012-2014)
- Secretary/Treasurer Sigma Xi- WSU Chapter
- Treasurer, AAUP WSU, elected by the Faculty

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

**Dr. Cambronero**
- Bylaws committee
- Leadership Team-American Heart Association fundraising chaired by Dean Bowman

**Dr. Kadakia**
- Associate Director for Center of Genomics Research
- Member of the Faculty development committee.
- Member of the Student Promotion committee
- Neurology Chair Search Committee

**Dr. Leffak**
- Ad Hoc BSoM Space Committee
- Faculty Curriculum Committee

**Dr. Markey**
- Program Review Committee
- Boonshoft School of Medicine Graduate Council
- Boonshoft School of Medicine Graduate Council Membership Subcommittee
Dr. Organisciak  
Research Committee in BSOM

Dr. Paietta  
Foundations Leadership Committee  
WCSC (Wright Curriculum Steering Committee)

Dr. Prochaska  
biennium 1 subcommittee  
BSOM curriculum reform task force

Dr. Reo  
BSOM Milestone Leadership Committee  
BSOM Research Committee Member  
Steering Committee Member for MBM Course

Wright State University

Dr. Cambronero  
BMB  
Promotion and Tenure

Dr. Campbell  
BMB  
BS in BMB Program Development Committee

COSM  
College of Science and Math Undergraduate Curriculum Committee

Dr. Hostetler  
BMB  
Curriculum Committee  
BMB Master's Program Admissions Committee, member.  
BMB Webpage Design Committee, Chair

COSM  
COSM Academic Computing and Technology Committee, member

BMS  
BMS Ph.D. Program Curriculum Committee (Member, Elected)  
Nominating Committee, member
University
  Dr. Hostetler, University, Radiation Safety Committee, member

**Dr. Kadakia**

**BMB**
  Departmental liaison for graduate students
  Director for the BMB Masters program for academic year 2012-2013, 2013-2014 and 2014.
  Faculty Development Committee

**BMS**
  Member of the BMS Academics Policies Committee

University
  Member of the Graduate Council Committee
  Member of the Graduate Council Student Affairs Committee

**Dr. Leffak**

**BMB**
  BMB Faculty Development Committee

**BMS**
  Academic Policies Committee

**COSM**
  CoSM committee for design of Ph.D. Program in Math/Stat & Physics
  CoSM Faculty Development Committee
  Undergrad Student Petitions Committee

University
  Ad Hoc WSU Tenure Grievance Committee (Justin Gibbs), appointed by S. Berberich

**Dr. Markey**

**BMB**
  BMB Graduate Education Committee (GEC)
  BMB MS Program Student Assessment Committee

**BMS**
  BMS Admissions Committee
  BMS Nominating Committee

**COSM**
  Program Review Committee
Other
  Dayton Biorepository Steering Committee

University
  WSU Graduate Council, BSOM faculty alternate representative

Dr. Organisciak
BMB
  Promotions and Tenure Committee

Dr. Paietta
BMB
  M.S. Admissions Committee

BMS
  Curriculum Committee

COSM
  Graduate Studies Committee
  Undergraduate Curriculum Committee

University
  Faculty Budget Priority Committee
  Faculty Senate

Dr. Paliy
BMB
  Graduate Education (GEC) Committee
  BMB Instructor search committee
  BMB publications fee committee
  BMB Undergraduate degree committee
  BMB website redesign committee

BMS
  PhD Program admission committee

University
  WSU Institutional Biosafety committee

Dr. Prochaska
BMB
  BMB graduate admissions committee
  BMB, BS/MS Curriculum Committee, Chair
  BMB, diversity committee chair
  BMB, Faculty Development Committee
BMS
  Curriculum, member

COSM
  CoSM faculty development committee
  CoSM Steering Committee
diversity committee chair
equity advisor for cosm

University
  athletics council, gender equity subcommittee member
  athletics council, immediate past chair
  Committee for Women, AAUP
  University, treasurer, aaup
  university diversity advocacy committee

Dr. Reo
BMB
  BMB Curriculum Committee for development of new degree programs in BMB

BMS
  Area of Concentration Recruiter for "Integrative Biology and Toxicology"

University
  Buildings & Grounds Committee Member; BSOM Representative.
  Faculty Senate
  Faculty Senate Executive Committee
  Research Council (Member, Representative from Faculty Senate)

Dr. Xu
BMB
  Member of the Admission Committee of BMB Masters Program .

COSM
  Member of the Academic Mediation Committee

Wright State Physicians
  N/A

Hospital or affiliated institution [name]
  N/A

State
  N/A

National
Patient Care Summary

N/A

Honors and awards [Faculty or staff]

Dr. Cambronero
Brage Golding Distinguished Professor of Research

Madhu Mahankali, Ph.D. student, AHA Pre-doctoral Fellowship

Dr. Paliy
Vijay Shankar, Ph.D. student, Best Graduate Student Poster Presentation Award, OBASM 2014 Conference
Hosted events [CME, etc.]

Departmental Seminar Series

Spring Semester 2014:
Dr. Q. Quinn Li, Department of Biology, Miami University
Dr. David Kaplan, Department of Molecular Genetics, University of Toronto
Dr. Li Wang, Department of Medicine, University of Utah School of Medicine
Dr. Jihad Skaf, Next Generation Sequencing Specialist, Life Technologies
Dr. Mark Jackson, Department of Pathology, Case Western Reserve University School of Medicine
Dr. Christin Burd, College of Arts and Sciences, Ohio State University
Dr. Carol Miller-Graziano, Department of Surgery, University of Rochester Medical Center, School of Medicine and Dentistry
Dr. Daniel Organisciak, Department of Biochemistry and Molecular Biology, Wright State University
Dr. Yanan Yang, Departments of Medicine and Biochemistry/Molecular Biology, Mayo Clinic
Dr. P. Darrell Neufer, Departments of Physiology and Kinesiology, Brody School of Medicine, East Carolina University

Fall Semester 2014:
Dr. Nathan Salomoni, Department of Pediatrics, University of Cincinnati
Dr. Benny Kaipparettu, Department of Molecular & Human Genetics, Baylor College of Medicine
Dr. Hakan Cam, College of Medicine, The Ohio State University
Dr. Edward McKee, Foundational Sciences, Central Michigan University
Dr. Nicholas Rhind, Department of Biochemistry & Molecular Pharmacology, University of Massachusetts Medical School
Dr. Patrick Dennis, Research Biologist, Materials and Manufacturing Directorate, Air Force Research Laboratory, WPAFB
Dr. Steffi Oesterreich, Department of Pharmacology & Chemical Biology, University of Pittsburgh Cancer Institute
Dr. David Ferguson, Department of Pathology & Comprehensive Cancer Center, University of Michigan Medical Center
Dr. Mohammad Athar, Department of Dermatology, University of Alabama at Birmingham
Dr. Darren Wallace, Department of Medicine, University of Kansas Medical Center

Other information

[Other information that represents your department’s contribution to the academic mission of the Boonshoft School of Medicine.]

N/A