WRIGHT STATE UNIVERSITY

DEPARTMENT OF BIOCHEMISTRY & MOLECULAR BIOLOGY

ANNUAL REPORT - BSOM

JANUARY 1 - DECEMBER 31, 2012

March 1, 2013

DEPARTMENT OF BIOCHEMISTRY & MOLECULAR BIOLOGY
ANNUAL REPORT SUMMARY
JANUARY 1, 2012 - DECEMBER 31, 2012

1. Department Highlights

Defenses

Dr. Berberich
Joseph Rotsinger, M.S. Student
Thesis Title: Exploration of Ypel3 Response to Hormones and Ability to Induce Senescence

Dr. Cambronero
Qing Ye, M. S. Student
Thesis Title: Serum Deprivation Confers the MDA-MB-231 Breast Cancer Line with an EGFR/JAK3/PLD2 System That Maximizes Cancer Cell Invasion

Dr. Kadakia
Mary Leonard, Ph.D. Student
Thesis Title: Regulation of the Transcription and Subcellular Localization of the Tumor Suppressor PTEN by ΔNp63α
She is currently a Postdoctoral Fellow at University of Maryland

Dr. Leffak
Yanzhe Gao, Ph.D. Student
Thesis Title: Regulation of DUE-B in the cell
He is currently a Postdoctoral Fellow at WSU

Dr. Markey
Pooja Mandke, M. S. Student
Thesis Title: STUDY OF MICRORNA-34a MEDIATED POST TRANSCRIPTIONAL REGULATION OF MDM4
She is currently a Research Assistant at Johns Hopkins, in the laboratory of Landon King, the Vice Dean for Research.

Dr. Reo
Deirdre Mahle, Ph.D. Student
Thesis Title: Omic Evaluation of the Region Specific Changes Induced by Non-cholinergic Diisopropylfluorophosphate (DFP) Exposure in Fischer 344 Rat Brain
She is currently a Research Biologist, 711 Human Performance Wing, Air Force Research Laboratory, WPAFB, OH.

2. Programs and Divisions in Department

Center for Genomics Research- Director: Dr. Michael Markey

Magnetic Resonance Laboratory- Director: Dr. Nicholas Reo

Institute for Computational Biology- Director: Dr. Gerald Alter

A. DEPARTMENTAL PERSONNEL

B. PROFESSIONAL ACHIEVEMENT

C. PRESENTATIONS AND AD HOC REVIEWING

D. RESEARCH PRODUCTIVITY/PROFESSIONAL ACTIVITY

1. Papers/Chapters Published ..... 28(8)*
2. Papers in Press ..... 4(4)*
3. Manuscripts Submitted ..... 10(1)*

* (Adjunct/Voluntary faculty)

E. GRANT SUPPORT

	Number	Direct
1. Extramural Grants Funded	17	$ 767,309
2. Extramural Proposals Submitted/Pending	10	---
3. WSU Seed Grants Funded	9	$ 61,083
4. WSU Seed Grants Applications	1	---
	Indirects	$ 356,600
	Total	$1,184,992

3. Faculty

Professors

Gerald M. Alter, Ph.D.
Steven J. Berberich, Ph.D., Chair
Julian Gomez Cambronero, Ph.D.
I. Michael Leffak, Ph.D.
Daniel T. Organisciak, Ph.D.
Lawrence J. Prochaska, Ph.D.
Nicholas V. Reo, Ph.D.

Associate Professors

Madhavi Kadakia, Ph.D.
John V. Paietta, Ph.D
Oleg Paliy, Ph.D.

Assistant Professors

Heather Hostetler, Ph.D.
Yong-jie Xu, Ph.D.

Research Assistant Professors

Guoqi Liu, Ph.D. (Departed September 2012)
Michael Markey, Ph.D.
S. Dean Rider, Ph.D.

Faculty Biographical Information

Dr. Alter

A principle focus of the Alter laboratory over the last several years has been the elucidation of the structures and dynamics of the protein, Replication Protein A (RPA). This is a key protein in the metabolism of DNA, being necessary for processes of DNA replication, recombination, and repair, as well as regulation of the cell cycle. The likely role of this protein involves organization of multi enzyme/protein complexes necessary for the activities just mentioned. Structures of native RPA and potential protein and/or DNA binding partners have eluded investigators using traditional methodologies. Therefore, we are developing a novel approach that uses a combination of structure prediction based on computational methodologies, and structural analysis using the observed reactivity of selected chemical and enzymatic reagents toward the target protein. This approach (Modification Reactivity ANalysis, or MRAN) has the potential for being generally useful in protein structural determinations. We are developing and refining these methodologies using a variety of proteins including RPA. Our goal is to develop high-confidence structural models of RPA and RPA in a variety of biologically important adducts. Concomitantly, we continue to refine MRAN technology and apply it to relevant in vitro and in vivo structural problems.

Dr. Berberich

My laboratory is interested in understanding the regulation of the p53 tumor suppressor in human tumors. Recently we performed gene expression profiling experiments with MCF7 breast cancer cells where wild-type p53 was reactivated using RNAi knockdown of Hdm2 or HdmX. This led to our discovery that YPEL3 (Yippee-like-3), a member of a family of putative zinc finger motif coding genes, is a p53-regulated gene (Heminger, Markey et al. 2009). We have gone on to show that YPEL3 is directly transactivated by p53, that YPEL3 induction is growth suppressive triggering cellular senescence in various tumor and primary cells and that YPEL3 expression is reduced in ovarian tumors through CpG DNA hypermethylation (Kelley, Miller et al. 2010). Our current research is aimed at employing cell and mouse models to test the hypothesis that YPEL3 is a novel tumor suppressor.

Dr. Cambronero

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. To attest to this, we have proved that the enzyme PLD2 is necessary for leukocyte chemotaxis in seminal papers published in Blood and FASEB J. We were the first group to explain how PLD2 activity and its biological activity is regulated, by discovering new molecular associations through SH2 domains with the signaling molecules Grb2 and Rac2 (Oncogene, JMB, JBC and MCB). We have also provided in PNAS the groundbreaking demonstration that a phospholipase can act as a GTPase exchange factor (GEF), and have uncovered the catalytic site of enzymatic activity (J Cell Science, 2012, JBC, 2012).

Our team will continue to investigate the intracellular signaling hierarchy that controls chemotaxis and 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 second 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 metastasis and cell seeding into a new tumor location.

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 NIH funding (R00) focuses on the peroxisome proliferator-activated receptor alpha (PPARa) 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 PPARa 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

The goal of my laboratory is to define the role of p63 in cancer through identification of unique signaling pathways regulated by p63. There are currently 2 projects which explore the function of p63. Two of these projects are focused on regulation of VDR by p63 and its implication in cancer growth, survival and invasion. Other project involves regulation of PTEN, referred to as the second guardian by p63. Both these projects involve characterization of upstream and downstream signaling pathways regulating p63 or regulated by p63. In addition, my laboratory in collaboration with the Materials and Manufacturing Directorate at the Air Force Research Laboratory (AFRL/RXBN) at Wright Patterson Air Force Base, is examining the use of clay nanoparticles for controlled release of bioactive agents for regulating cellular processes and the silk as a scaffold for tissue engineering applications. Furthermore, we are involved in studies to identify BREs against cognitive markers using peptide phage display studies.

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, Huntington disease, spinocerebellar ataxia) caused by the instability of short, microsatellite DNA sequences.

Dr. Markey

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.

My research also involves several projects through my role as Director of the Center for Genomics Research. These include a study on the effects of scabies mites on gene expression in artificial human skin, a study of how the genes Btf, Son, and Trap control gene expression and influence pre-mRNA splicing, and a study looking at the effects of a low-light environment on gene expression in the retina.

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.

Dr. Organisciak

The Petticrew Laboratory continues to investigate the efficacy of natural substances and pharmacological compounds in preventing light induced retinal visual cell loss and genetically based retinal degeneration in preclinical animal models of ocular disease. These projects are funded by two separate grants from Alcon,Ltd., with additional support from the Ohio Lions Eye Research Foundation. A major 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 a natural substance (Rosemary) has exceptional antioxidative properties in our light damage animal model, with an efficacy better than other more traditional antioxidants. Other proprietary drug studies, which employ genetically blind animals, are ongoing.

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
- Host-pathogen interactions and stress responses of pathogenic and commensal Escherichia coli
- Use of genetic engineering and mathematical modeling to study principles of gene and genome functions

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. Prochaska

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.

Dr. Reo

In general, my research interest is focused in the development and application of nuclear magnetic resonance (NMR)Ðbased 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. Rider

My time is currently divided among two 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), and 2) Understanding nuclear hormone receptors that also respond to nutrients to alter gene expression. Project 2 is a collaboration with Dr. Hostetler who has an R00 award from the NIH to study human nuclear receptors that are involved in diabetes, immune function, and cancer. We submitted a grant proposal on related nuclear receptors from mosquitoes that serve as insecticide targets and are essential to connecting energy balance with reproduction in mosquitoes (and other insects). This proposal is being revised for resubmission.

Dr. Xu

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 Sloan-Kettering Institute. The research focus of his laboratory is to understand the molecular mechanism of the DNA replication checkpoint.

4. Teaching

TEACHING

		Credit Hrs.	Enrollment
1.	Medical		
	SMD 551, Fall	3.0	106
	SMD 571, Fall	10.0	106
2.	Undergraduate		
	BMB 423, Winter	4.0	36
	BMB 499, Winter	2.0	2
	BMB 250, Spring	4.0	66
	BMB 427/BMS627, Spring	4.0	34
	BMB 499, Spring	1.0	1
	BMB 499, Spring	2.0	1
	BMB 499, Spring	4.0	1
	BMB 250, Summer	4.0	12
	BMB 499, Summer	3.0	1
	BMB 2500, Fall	3.0	39
	BMB 4210, Fall	3.0	74
	BMB 4990, Fall	2.0	2
	BMB 4990, Fall	3.0	1
3.	Graduate		
	BMB 701, Winter	3.0	4
	BMB 701/ BMS 991, Winter	4.0	11
	BMB 752/BMS 752, Winter	4.0	25
	BMB 800/BMS 990, Winter	1.0	5
	BMB 899, Winter	1.0	1
	BMB 899, Winter	2.0	2
	BMB 899, Winter	4.0	3
	BMB 900/BMS 990, Winter	1.0	4
	BMB 703/BMS 703, Spring	1.0	15
	BMB 760/BMS 760, Spring	4.0	12
	BMB 765/BMS 765, Spring	4.0	5
	BMB 800/BMS 990, Spring	1.0	5
	BMB 899, Spring	1.0	1
	BMB 899, Spring	2.0	3
	BMB 899, Spring	4.0	1
	BMB 899, Spring	7.0	1
	BMB 899, Spring	8.0	1
	BMB 900/BMS 990, Spring	1.0	5
	BMB 899, Summer	6.0	1
	BMB 899, Summer	8.0	5
	BMB 7010/BMS 7010, Fall	1.0	2
	BMB 7020, Fall	3.0	1

	Credit Hrs.	Enrollment
BMB 7500/BMS 7500, Fall	3.0	36
BMB 7530/BMS 7530, Fall	3.0	6
BMB 8000/BMS 9900, Fall	1.0	6
BMB 8990, Fall	1.0	1
BMB 8990, Fall	2.0	1
BMB 8990, Fall	4.0	1
BMB 8990, Fall	6.0	1
BMB 9000/BMS 9900, Fall	1.0	3

STUDENT RESEARCH

Director	Ph.D.	18
	M.D./Ph.D.	0
	M.S.	10
Member of Student Committee	Ph.D	42
	M.D./Ph.D.	0
	M.S.	11
Lab Rotations	Ph.D.	4
	M.S.	0
Undergraduate Student Research		15

Classroom Teaching

Dr. Alter

Winter 2012

BMB 701/BMS 991: Molecular Basis of Disease, 4 credit hours, 11 students, 4 total contact hours (4 lecture hours, 0 non-contact hours), Team taught, Classroom course, Course Director: M. Leffak

BMS 990-14: BMS Research Seminar, 1 credit hour, 46 students, total contact hours

Spring 2012

BMB765/BMS765: Tools and Strategies for Biomedical Computation, 4 credit hours, 5 students, 22 total contact hours (20 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: G.M. Alter

BMS 990-13: BMS Research Seminar, 1 credit hour, 45 students, total contact hours

Summer 2012

BMS 9900 C13: BMS Core Seminar: Grant Writing, 1 credit hour, 11 students, total

Fall 2012

BMB 4210: Biochemistry 1, 3 credit hours, 76 students, 26 total contact hours (22 lecture hours, 4 non-contact hours), Team taught, Classroom course, Course Director: S. Berberich

BMB7500/BMS 7500: Biochem and Mol Biol 1, 3 credit hours, 36 students, 16 total contact hours (11 lecture hours, 5 non-contact hours), Team taught, Classroom course, Course Director: M. Leffak

BMS 9940 - 01: Introduction to Research, 5 credit hours, 9 students, 14 total contact hours (14 lecture hours, 0 non-contact hours), Team taught, Classroom course, Course Director: G.M. Alter

BMB 9000/BMS 9900: Biochemistry Seminar, 1 credit hour, 3 students, total

BMS 990-14: BMS Research Seminar, 1 credit hour, 50 students, total contact hours

Dr. Berberich

Winter 2012

BMB 701/BMS 991: MBID, 4 credit hours, 11 students, 18 total contact hours (6 lecture hours, 12 non-contact hours), Team taught, Classroom course, Course Director: M. Leffak

Spring 2012

BMB760/BMS760: Mol. Biology of the Nucleus, 4 credit hours, 12 students, 15 Total contact hours (12 lecture hours, 3 non-contact hours), Team taught, Classroom course, Course Director: S. Berberich

Fall 2012

BMB 4210: Biochemistry I, 3 credit hours, 74 students, 27 total contact hours (23 lecture hours, 4 non-contact hours), Team taught, Classroom course, Course Director: S. Berberich

BMB 8000/ BMS 9900: Biochemistry Brown Bag, 1 credit hour, 3 students, total

Dr. Cambonero

Winter 2012

SMD 521: Cell Tissues and Organ Systems, 5 credit hours, 106 students, 7 total contact hours (5 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: L.Ream

Fall 2012

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: J.G. Cambronero

Dr. Hostetler

Winter 2012

BMB 752/ BMS 752: Biochem. & Mol. Bio. II, 4 credit hours, 25 students, 24 total contact hours (12 lecture hours, 12 non-contact hours), Team taught, Classroom course, Course Director: M. Kadakia

Spring 2012

BMB760 / BMS760: Mol. Biology of the Nucleus, 4 credit hours, 12 students, 15 total contact hours (6 lecture hours, 9 non-contact hours), Team taught, Classroom course, Course Director: S. Berberich

Dr. Kadakia

Winter 2012

BMB 752/BMS 752: Molecular Biochemistry , 4 credit hours, 23 students, 20 total contact hours (12 lecture hours, 8 non-contact hours), Team taught, Classroom course, Course Director: M. Kadakia

Fall 2012

BMB 7020: Research Perspectives, 3 credit hours, 1 students, 14 total contact hours (14 lecture hours, 0 non-contact hours), Classroom course, Course Director: M. Kadakia

BMB 7530/BMS 7530: Mol. Signaling/Mol. Cell Bio. , 3 credit hours, 6 students, 38 total contact hours (18 lecture hours, 20 non-contact hours), Team taught, Classroom course, Course Director: J. Paietta

BMB7010/ BMS 9910: Mutant p53/p63 signaling, 1 credit hour, 2 students, 20 total Contact hours (18 lecture hours, 2 non-contact hours), Classroom course, Course Director: M. Kadakia

Dr. Leffak

Winter 2012

BMB701/BMS991: MBID, 4 credit hours, 11 students, 11 total contact hours (6 lecture hours, 5 non-contact hours), Team taught, Classroom course, Course Director: M. Leffak

Spring 2012

BMB 703/BMS 703: Research Ethics, 1 credit hour, 15 students, 10 total contact hours (10 lecture hours, 0 non-contact hours), Classroom course, Course Director: M. Leffak

BMS991: More Genome Instability, 2 credit hours, 1 students, total contact hours

Fall 2012

BMB7500/BMS 7500: Molecular Biochemistry, 3 credit hours, 36 students, 22 total contact hours (17 lecture hours, 5 non-contact hours), Team taught, Classroom course, Course Director: M. Leffak

Dr. Markey

Winter2012

BMB 701/BMS 991: Molecular Basis of Inherited Disease, 4 credit hours, 11 students, 10 total contact hours (3 lecture hours, 7 non-contact hours), Team taught, Classroom course, Course Director: M. Leffak

Spring 2012

BMB 760/BMS 760: Molecular Biology of Nucleus, 4 credit hours, 12 students, 14 total contact hours (6 lecture hours, 8 non-contact hours), Team taught, Classroom course, Course Director: S. Berberich

Dr. Organisciak

Winter 2012

BMB 423: Biochemistry II, 4 credit hours, 36 students, 10 total contact hours (10 lecture hours, 0 non-contact hours), Team taught, Classroom course, Course Director: L. Prochaska

BMB 900/BMS 990: Biochemistry Seminar, 1 credit hour, 4 students, total contact

Spring 2012

BMB 427/BMB 627: Human Biochemistry, 4 credit hours, 34 students, 24 total contact hours (12 lecture hours, 12 non-contact hours), Team taught, Classroom course, Course Director: D. T. Organisciak

BMB 900/BMS 990: Biochemistry Seminar, 1 credit hour, 5 students, total contact

Fall 2012

SMD 571: Molecular Basis of Medicine, 10 credit hours, 106 students, 20 total contact hours (16 lecture hours, 4 non-contact hours), Team taught, Classroom course, Course Director: L. Prochaska

Dr. Paietta

Winter 2012

BMB 423: Biochemistry II, 4 credit hours, 36 students, 11 total contact hours (9 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: L. Prochaska

Spring 2012

BMB 427/BMB 627: Human Biochemistry, 4 credit hours, 34 students, 10 total contact hours (6 lecture hours, 4 non-contact hours), Team taught, Classroom course, Course Director: D.T. Organisciak

Fall 2012

BMB7530/BMS 7530: Molecular Signaling/Molecular Cell Biology, 3 credit hours, 6 students, 16 total contact hours (14 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: J. Paietta

SMD 571: Molecular Basis of Medicine, 10 credit hours, 106 students, 27 total contact hours (24 lecture hours, 3 non-contact hours), Team taught, Classroom course, Course Director: L. Prochaska

Dr. Paliy

Winter 2012

BMB 701/BMS 701: Clinical Microbiology, 3 credit hours, 4 students, 6 total contact hours (0 lecture hours, 6 non-contact hours), Team taught, Classroom course, Course Director: M. Rodgers

Spring 2012

BMB 427/BMB 627: Human Biochemistry, 4 credit hours, 34 students, 10 total contact hours (9 lecture hours, 1 non-contact hours), Team taught, Classroom course, Course Director: D. Organisciak

BMB 765/ BMS 765: Comp Tools / Strategies, 4 credit hours, 5 students, 22 total contact hours (20 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: G.M. Alter

Fall 2012

BMB 7530/BMS 7530: Molecular signaling, 3 credit hours, 6 students, 14 total contact hours (12 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: J. Paietta

Dr. Prochaska

Winter 2012

BMB 423: Biochemistry II, 4 credit hours, 36 students, 33 total contact hours (16 lecture hours, 17 non-contact hours), Team taught, Classroom course, Course Director: L.J. Prochaska

BMB701/BMS 991: Molecular Basis of Inherited Diseases, 4 credit hours, 11 students, 7 total contact hours (6 lecture hours, 1 non-contact hours), Team taught, Classroom course, Course Director: M. Leffak

Fall 2012

SMD 571: Molecular Basis of Medicine, 10 credit hours, 106 students, 28 total contact hours (23 lecture hours, 5 non-contact hours), Team taught, Classroom course, Course Director: L.J. Prochaska

Dr. Reo

Winter 2012

BMB 752/BMS 752: Biochemistry & Molecular Biology II, 4 credit hours, 25 students, 15.25 total contact hours (9.75 lecture hours, 5.5 non-contact hours), Team taught, Classroom course, Course Director: M. Kadakia

BME 763: NMR Imaging & In Vivo Spectroscopy, 4 credit hours, 6 students, 38.25 total contact hours (30 lecture hours, 8.25 non-contact hours), Classroom course, Course Director: N.V. Reo

Spring 2012

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: N.V. Reo

Fall 2012

SMD 571: Molecular Basis of Medicine, 10 credit hours, 106 students, 30 total contact hours (28 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: L. Prochaska

Dr. Xu

Spring 2012

BMB 760/BMS 760: Mol. Biology of Nucleus, 4 credit hours, 12 students, 8 total contact hours (6 lecture hours, 2 non-contact hours), Team taught, Classroom course, Course Director: S. Berberich

Fall 2012

BMS7500/BMB7500: Biochemistry & Molecular Biology I, 6 credit hours, 37 students, 13 total contact hours (10 lecture hours, 3 non-contact hours), Team taught, Classroom course, Course Director: M. Leffak

Undergraduate Research

Dr. Alter

Fall	BMB 4990	2 credits	1 student (Grace Klinger)

Dr. Berberich

Winter	BMB 499	2 credits	1 student (Joanie Ma)
Spring	BMB 499	2 credits	1 student (Justin Lake)
Summer	BMB 499	3 credits	1 student (Derek Engle)
Fall	BMB 4990	3 credits	1 student (Larrilyn Yelton)

Caitlin Meyers, STEM student, lab participation 15-20 hours per week
Larrilyn Yelton, Honors and STEM student, lab participation 5 hours per week
Joanie Ma, STEM student, lab participation 3 hours per week
Justin Lake, STEM student, lab participation 3 hours per week
Derek Engle, STEM student, lab participation 3 hours per week

Dr. Cambronero

Nate Hatton, Honors Student, lab participation 30 hours per week for 20 weeks
Samuel Kantonen, Honors Student, lab participation 30 hours per week for 20 weeks

Dr. Hostetler

Summer	PHS 499	4 credits	1 student (Valery Lozada)

Andrea Davis (Smith), lab participation 18 hours per week for 39 weeks
Valery Lozada, STREAMS student, lab participation 33 hours per week for 8 weeks

Dr. Kadakia

Ethan Grant, STEM student, lab participation 10-15 hours per week
Ma. Victoria Pascual, STEM student, lab participation 10-15 hours per week

Dr. Leffak

Winter	BMB 499	2 credits	1 student (Rachel Meredith)
Spring	BMB 499	4 credits	1 student (Rachel Meredith)

Rachel Meredith, STEM student, lab participation 10 hours per week for 30 weeks

Dr. Paliy

Fall	BMB 4990	2 credits	1 student (Christina Roth)

Christina Roth, STEM student, lab participation 8 hours per week
Mary Hughes, lab participation 8 hours per week
Rebekah Bogard, lab participation 8 hours per week

Dr. Xu

Spring	BMB 499	1 credits	1 student (Elaine Kim)

Graduate Medical Education

	Credit Hrs.	Enrollment
SMD 551, Fall	3.0	106
SMD 571, Fall	10.0	106

Graduate Students (M.D./Ph.D., M.S., & Ph.D.)

i. List those whose dissertation research you direct.

Dr. Alter
- Ryan Yoakum, Ph.D.

Dr. Berberich
- Remah Ali, M.S.
- Erin Nass, M.S.
- Joseph Rotsinger, M.S. (graduated)

Dr. Cambronero
- Madhu Mahankali, Ph.D.
- Qing Ye, M.S. (graduated)

Dr. Hostetler
- Jeanette Loyer, Ph.D.
- Dhawal Oswal, Ph.D.
- Frances Soman, Ph.D.

Dr. Kadakia
- Natasha Hill, Ph.D.
- Mary Leonard, Ph.D. (graduated)
- Ashley Sutherland, M.S.

Dr. Leffak
Joanna Barthelemy, Ph.D.
Tu Danh, Ph.D.
Yanzhe Gao, Ph.D. (graduated)
Todd Lewis, Ph.D.
Sumeet Poudel, Ph.D.

Dr. Markey
Pooja Mandke, M.S. (graduated)
Sameep Naik, M.S.

Dr. Paietta
Alyssa Daniel, Ph.D.

Dr. Paliy
Richard Agans, Ph.D.
Pavani Beesetty, M.S.
Amanda Kilburn, M.S.
Abigail Schwartz, M.S.
Vijay Shankar, Ph.D.

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

Dr. Reo
Deirdre Mahle, Ph.D. (part-time) (graduated)

Dr. Xu
Amanpreet Singh, M.S.

ii. List those for whom you are a committee member.

Dr. Alter
Khadijeh Alnajjar, Ph.D.
Curt Grigsby, Ph.D.
Prasanthi Kumchala, M.S. (M&I)
Madhupriya Mahankali, Ph.D.
Pooja Mandke, M.S.
E. Merrill, Ph.D.
Bradley Sharp, M.S. (M&I)
Jelynn Stinson, Ph.D.
Sapna Varia, Ph.D.
Qing Ye, M.S.

Dr. Berberich
- Joanna Barthelemy, Ph.D.
- Uohna Foster, Ph.D.
- Yanzhe Gao, Ph.D.
- Natasha Hill, Ph.D.
- Katie Leonard, Ph.D.
- Pooja Mandke, M.S.
- Dhawal Oswal, Ph.D.
- Eric Romer, Ph.D.
- Amber Todd, Ph.D.

Dr. Cambronero
- Adam Reichard, Ph.D.

Dr. Hostetler
- Richard Agans, Ph.D.
- Remah Ali, M.S.
- Khadijeh Alnajjar, Ph.D.
- Natasha Hill, Ph.D.
- Anil Karumuri, Ph.D. (Engineering)
- Ran Yan (Rena), Ph.D.
- Ryan Yoakum, Ph.D.

Dr. Kadakia
- Natasha Hill, Ph.D.
- Mary Leonard, Ph.D.
- Richard Pye, Ph.D.
- Alok Sharma, Ph.D.
- Ashley Sutherland, M.S.
- Amber Todd, Ph.D.

Dr. Leffak
- Remah Ali, Ph.D.
- Andy Koesters, Ph.D.
- Ola Kolawale, Ph.D.
- Katie Leonard, Ph.D.
- Rick Salisbury, Ph.D. (Pharm/Tox)
- Amanpreet Singh, Ph.D.
- John Trombley, M.S. (Biology)
- Michael Wourms, M.S. (Pharm/Tox)

Dr. Paietta
- Uohna Foster, Ph.D.

Dr. Paliy
- Hilary Allen, M.S. (M&I)

Daniel Homer, Ph.D.

Dr. Prochaska
Anne Imber, M.D./Ph.D.
Dawal Oswal, Ph.D.
Neelima Sharma, Ph.D.
Ryan Yoakum, Ph.D.

Dr. Reo
Eric Moyer, Ph.D. (CS&E)
Richard Pye, Ph.D.

Dr. Xu
Joanna Barthelemy, Ph.D.
Yanzhe Gao, Ph.D.
Todd Lewis, Ph.D.

i. List those whose non-dissertation research or lab rotation you directed this year.

Dr. Cambronero
Poornima Kothalakshminaraya, Ph.D.

Dr. Hostetler
Shimpi Bedi, Ph.D.
Andrew Snyder, Ph.D.

Dr. Kadakia
Benjamin Schmidt, Ph.D.

b. Undergraduate Research

Dr. Berberich
Derek Engle
Justin Lake
Joanie Ma
Caitlin Meyers
Larrilyn Yelton

Dr. Cambronero
Nate Hatton
Sam Kantonen

Dr. Hostetler
Andrea Davis
Valery Lozada

Dr. Kadakia
Ethan Grant
Ma. Victoria Pascual

Dr. Leffak
Rachel Meredith

Dr. Paliy
Rebekah Bogad
Mary Hughes
Christina Roth

5. Scholarly Activity

Grants
Extramural Grants Active

Dr. Cambronero
Ohio Board of Regents/Third Frontier, Inhibitors of Metastasis, P.I. Julian Cambronero, (4/1/2011 to 3/31/2012) Total $6250, Direct Current Year $6250, Total cost for entire grant period $25000.
NIH, Mechanism of PLD activation: Role on phagocyte chemotaxis, P.I. Julian G. Cambronero, (04/01/2008 to 03/31/2012) Total $74500, Direct Current Year $50000, Indirect Current Year $24500, Total cost for entire grant period $1192000, 20% salary for Dr. Cambronero.

Dr. Hostetler
NIH/NIDDK, The role of long-chain fatty acyl-CoAs in nuclear receptor regulation, P.I. Heather A. Hostetler, (9/25/2009 to 8/31/2012) Total $166029, Direct Current Year $117339, Indirect Current Year $48690, Total cost for entire grant period $754637.

Dr. Kadakia
Air Force Research laboratory, Identification of Peptide Ligands using phage display library, P.I. , (7/31/2011 to 6/30/2013) Total $80000, Direct Current Year $54795, Indirect Current Year $25205, Total cost for entire grant period $160000.
Role of DNp63alpha in Vitamin D mediated cell survival in skin cancer, P.I. , (4/1/2012 to 3/31/2017) Total $216137.5, Direct Current Year $155719, Indirect Current Year $60418.5, Total cost for entire grant period $1382833, 33% salary for Dr. Kadakia.

Dr. Leffak

NIH, Analysis of the Human c-myc Gene Replication Origin, P.I. Ira Leffak, (8/1/2010 to 7/31/2013) Total $301889, Direct Current Year $210375, Indirect Current Year $91514, Total cost for entire grant period $301889, 16% salary for Dr. Leffak.

NIH, Second-site genetic modifiers of CTG/CAG microsatellite stability, P.I. Ira Leffak, (5/1/2012 to 4/30/2016) Total $192216, Direct Current Year $126666, Indirect Current Year $65550, Total cost for entire grant period $1109600, 15% salary for Dr. Leffak.

Dr. Markey

Dermatopathology Lab of Central States, Establishment of aCGH Capabilities Within the Center for Genomics Research, P.I. , (1/3/2011 to 3/31/2012) Total $16000, Direct Current Year $16000, Total cost for entire grant period $80000.

Petticrew Research Laboratory, Rat retina gene array project, P.I. Daniel Organisciak, (11/7/2012 to 2/1/2013) Total $7953.21, Direct Current Year $7759.23, Indirect Current Year $193.98, Total cost for entire grant period $15518.45.

NIH, Short-term research ediation program to increase diversity in health-related research (STREAMS), P.I. Mariana Morris, Ph.D., (7/1/2010 to 6/30/2015) Total $0, Direct Current Year $0, Total cost for entire grant period $694440.

Dr. Organisciak

Ohio Lions Eye Research Foundation, Antioxidants and Retinal Gene Expression Profiles, P.I., (7/1/2011 to 7/1/2012) Total $3950, Direct Current Year $3950, Indirect Current Year $0, Total cost for entire grant period $7900.

Alcon Ltd., Drug Effects on Photoreceptor Cell Survival in Royal College of Surgeons Rats, P.I. , (07/15/2011 to 07/15/2012) Total $7274, Direct Current Year $6613, Indirect Current Year $661, Total cost for entire grant period $13616.

Alcon Ltd., Prevention of Light Induced Retinal Degeneration by Natural Substances, P.I., (1/1/2012 to 6/30/2012) Total $7134, Direct Current Year $7134, Total cost for entire grant period $7134.

International Retina Research Foundation, Zinc and Oxidative Stress in an Animal Model of Retinal Degeneration, P.I., (10/1/2012 to 9/30/2013) Total $24938, Direct Current Year $23750, Indirect Current Year $1188, Total cost for entire grant period $99750.

Dr. Paily

Procter & Gamble, Human microbiome research, P.I., (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, Quantitative measurements of fecal metabolites in healthy and IBS children, P.I. , (7/1/2010 to 6/30/2013) Total $35040, Direct Current Year $24000, Indirect Current Year $11040, Total cost for entire grant period $142130, 10% salary for Dr. Paliy.

Dr. Prockaska

NSF, Advance/Leader Consortium, P.I. Michele Wheatly, David Goldstein, (7/1/2008 to 6/30/2014) Total $16000, Direct Current Year $12000, Indirect Current Year $4000, Total cost for entire grant period $76000, 8.5% salary for Dr. Prochaska.

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, (9/1/2012 to 8/31/2013) Total $75033, Direct Current Year $51393, Indirect Current Year $23640, Total cost for entire grant period $225100, 15% salary for Dr. Reo.

NIH, R03, Center for Complementary and Alternative Medicine, Quantitative measurements of intestinal metabolites in healthy and IBS children, P.I. Oleg Paliy, (7-1-2010 to 6-30-2012) Total $0, Direct Current Year $0, Indirect Current Year $0, Total cost for entire grant period $145500, 7% salary for Dr. Reo.

Internal Grants Active

Dr. Berberich

BSOM Bridge Grant, YPEL3 as a novel tumor suppressor, P.I. Steven Berberich, (7/1/2012 to 6/30/2013) Total $17000, Direct Current Year $17000, Total cost for entire grant period $35000.

Dr. Cambronero

Research Affairs, Bridge Grant, P.I. Julian G Cambronero, (10/1/2012 to 3/31/2013) Total $22500, Direct Current Year $22500, Total cost for entire grant period $45000.

Dr. Hostetler

Emerging Science Seed Grant Program BSOM, Mosquito Nuclear Receptors, P.I. Stanley Dean Rider, Jr., (7/1/2011 to 6/30/2012) Total $0, Direct Current Year $0, Indirect Current Year $0, Total cost for entire grant period $0.

Women in Science Giving Circle Award, Nuclear Receptor Gene Regulation, P.I. , (8/1/2012 to 7/30/2013) Total $5000, Direct Current Year $5000, Indirect Current Year $0, Total cost for entire grant period $5000.

Dr. Paietta

Boonshoft School of Medicine Seed Grant- Emerging Science Program, Riboswitch control of eukaryotic gene expression, P.I. John Paietta, (7/1/2012 to 6/30/2013) Total $6000, Direct Current Year $6000, Total cost for entire grant period $12000.

Dr. Paliy

WSU Graduate Student Assembly, Optimization of anaerobic culturing of intestinal mcirobiota, P.I. Vijay Shankar, (7/1/2012 to 6/30/2013) Total $375, Direct Current Year $375, Indirect Current Year $0, Total cost for entire grant period $750.

WSU Graduate Student Assembly, The effect of modified bioreactor media on gut microbiota in vitro, P.I. Richard Agans, (7/1/2012 to 6/30/2013) Total $375, Direct Current Year $375, Indirect Current Year $0, Total cost for entire grant period $750.

WSU USRG, TRFLP database, P.I. Christina Roth, (10/1/2012 to 12/31/2012) Total $500, Direct Current Year $500, Indirect Current Year $0, Total cost for entire grant period $500.

Dr. Rider

Emerging Science Seed Grant Program BSOM, Mosquito Nuclear Receptors, P.I. Stanley Dean Rider Jr., (7/1/2011 to 6/30/2012) Total $6000, Direct Current Year $6000, Indirect Current Year $0, Total cost for entire grant period $12000.

Dr. Xu

Seed Grant, Boonshoft School of Medicine, Function of the catalytic subunit of DNA polymerase epsilon in stabilization of stalled replication forks., P.I. Yong-jie Xu, (9/1/2012 to 8/30/2013) Total $3333, Direct Current Year $3333, Indirect Current Year $0, Total cost for entire grant period $10000.

Extramural Submitted as PI

Dr. Berberich

NIH, Understanding the role of YPEL-dependent senescence in breast cancers, P.I. Steven J. Berberich, Submitted 10/13/2012, Requested Total $401500, Direct $275000, Indirect $126500 (Pending).

Dr. Kadakia

Air Force Office of Scientific Research , Next Generation Sequencer for Understanding and Monitoring Human Performance. Air Force Office of Scientific Research, P.I. , Submitted 9/28/2012, Requested Total $337641, Direct $337641 (Pending).

Dr. Markey

NIH, Acquisition of Ion Torrent Personal Genome Machine to establish high throughput sequencing capability for ecological and environmental biology, P.I. Oleg Paliy, Submitted 12/14/2012, Requested Total $0, Direct $0 (Pending).

NAMRU-D, Effects of Oxidative Stress in Rat Brains, P.I. Palur Gunasekar, Submitted 10/23/2012, Requested Total $86684.32, Direct $70404.32, Indirect $16280 (Pending).

NIH, Marianna Morris mouse array project, P.I. Marianna Morris, Submitted 5/22/2012, Requested Total $18947, Direct $16907, Indirect $2040 (Pending).

NIH, Molecular Mechanism of the DNA Replication Checkpoint, P.I. Yongjie Xu, Submitted 9/27/2012, Requested Total $11309.95, Direct $7939.95, Indirect $3370 (Pending).

Dr. Organisciak

Ohio Lions Eye Research Foundation, Antioxidants and Retinal Gene Expression Profiles, P.I., Submitted 5-21-2012, Requested Total $15000, Direct $15000 (Pending).

American Health Assistance Foundation, Improved Selection of Antioxidants for AMD Prophylaxis, P.I. D W Armstrong, Submitted 11-1-2012, Requested Total $10000, Direct $10000, Indirect $0 (Pending).

Foundation Fighting Blindness, Novel and Natural Micronutrients for Reducing Progression of Late-stage Retinitis Pigmentosa, P.I. John C Lang, Submitted 12-31-2012, Requested Total $322338, Direct $322338 (Pending).

NIH SBIR, Nutrients of Increased Potency for Slowing Progression of AMD, P.I. John C Lang, Submitted 12-4-2012, Requested Total $14000, Direct $10000, Indirect $4000 (Pending).

Dr. Xu

American Cancer Society, Molecular mechanism of the DNA replication checkpoint, P.I. Yong-jie Xu, Submitted 10/15/2012, Requested Total $666756, Direct $559797, Indirect $106959 (Pending).

Internal Submitted as PI

Dr. Paliy

WSU Graduate Student Assembly, Mechanisms of action of probiotic VSL-3 on human gut bacteria using in vitro gut simulator system, P.I. Dima Sbenaty, Submitted 11/20/2012, Requested Total $750, Direct $750, Indirect $0 (Pending).

Extramural Not Funded

Dr. Berberich

Mary Kay Foundation, Characterization of a Novel Senescence Regulator in Breast Cancer, P.I. Steven J. Berberich, Submitted 2/23/2012, Requested Total $99992, Direct $86950, Indirect $13042 (Not Funded).

Alpha Omega Alpha, Molecular analysis of YPEL3 gene mutations in colorectal adenocarinomas, P.I. Patrick Feasel, Submitted 1/31/2012, Requested Total $5000, Direct $5000 (Not Funded).

Congressionally Directed Medical Research Programs, Targeting a novel senescence inducer in breast cancer, P.I. Steven J. Berberich , Submitted 4/16/2012, Requested Total $547500, Direct $375000, Indirect $172500 (Not Funded).

Dr. Hostetler

AHA Great Rivers Affiliate Predoctoral Fellowship, Regulation of Adiponectin and its receptors by ligand-activated Peroxisome proliferator-activated receptor alpha, P.I. Dhawal Oswal, Submitted 1/13/2012, Requested Total $50000, Direct $50000, Indirect $0 (Not Funded).

Dr. Markey

NIH, Genomic Profiling to Diagnose Melanoma, P.I. Michael Markey, Submitted 02/15/2012, Requested Total $401500, Direct $275000, Indirect $126500 (Not Funded).

NIH, Hippo and Caspase pathways in growth regulation, P.I. Madhuri Kango-Singh Submitted 6/6/2012, Requested Total $0, Direct $0 (Not Funded).

NIH, Human marginal zone B cells in the immune response against influenza virus, P.I. Osvaldo Lopez, Submitted 2/23/2012, Requested Total $29954, Direct $21404, Indirect $8550 (Not Funded).

NIH, Molecular Mechanism of the DNA Replication Checkpoint, P.I. Yongjie Xu, Submitted 4/24/2012, Requested Total $11309.95, Direct $7939.95, Indirect $3370 (Not Funded).

USAF, NPY human gene array project, P.I. Madhavi Kadakia, Submitted 2/17/2012, Requested Total $10490.52, Direct $8960.52, Indirect $1530 (Not Funded).

Dr. Organisciak

NIH SBIR, Novel Zinc Pronutrients for Age-related Disease, P.I. John C Lang, Submitted 08-06-2012, Requested Total $14000, Direct $10000, Indirect $4000 (Not Funded).

Dr. Paliy

NSF MRI, MRI: Acquisition of Ion Torrent Personal Genome Machine to establish high-throughput sequencing capability for ecological and environmental biology, P.I. , Submitted 01/26/2012, Requested Total $143365, Direct $143365, Indirect $0 (Not Funded).

European Human Frontier Science Program, Preproposal: Unraveling the effect of Maillard reaction products over the axis gut microbiota-intestinal epithelium liver, P.I. Jose RUFIçN-HENARE, Submitted 03/20/2012, Requested Total $0, Direct $, Indirect $ (Not Funded).

NIH, Temporal dynamics of distal gut microbiota in children, P.I. , Submitted 2/5/2012, Requested Total $2333339, Direct $1610936, Indirect $722403 (Not Funded).

Dr. Prochaska

National Institute of Standards, Neutron Beam facility, "SANS Studies of Integral Membrane Proteins in Liposome Model Membranes, P.I. S. Kruegar, Submitted 7/30/2012, Requested Total $24000, Direct $24000 (Not Funded).

Dr. Reo

National Institutes of Health, NIEHS, RO1 (RFA-RM-11-019), Functional Metabolomics-A Methodology to Enhance Assessment of Tissue Function, P.I. Nicholas V. Reo, Submitted 1/31/2012, Requested Total $2450792, Direct $1793229, Indirect $657563 (Not Funded).

Dr. Xu

NSF, Molecular mechanism of the DNA replication checkpoint, P.I. Yong-jie Xu, Submitted 5/21/2012, Requested Total $530933, Direct $365769, Indirect $165164 (Not Funded).

Internal Not Funded

Dr. Paliy

WSU Graduate Student Assembly, Travel grant: mathematical modeling at U Minnesota, P.I. Vijay Shankar, Submitted 03/03/2012, Requested Total $450, Direct $450, Indirect $0 (Not Funded).

Papers/Chapters Published or (In Press)

Dr. Alter

Mahankali, M., Henkels,.K., Alter G., Gomez-Cambronero J., 'Identification of the Catalytic Site of Phospholipase D2 (PLD2) Newly Described Guanine Nucleotide Exchange Factor Activity', The Journal of Biological Chemistry, 287, 41417-41431, 2012.

Dr. Berberich

Mandke, P., Wyatt, N., Fraser, J., Bates, B., Berberich, S. J., Markey, M. P., 'MicroRNA-34a Modulates MDM4 Expression via a Target Site in the Open Reading Frame', PloS One, 7, e42034, 2012.

Tuttle, R., Miller, K., Maiorano, J.N., Termuhlen, P.M., and Berberich, S.J., 'Novel senescence associated gene, YPEL3, is repressed by estrogen in ER+ mammary tumor cells and required for tamoxifen-induced cellular senescence', International Journal of Cancer, 130, 775-779, 2012.

Dr. Cambronero

Di Fulvio, Frondorf K, Henkels, K, Grunwald Jr WC, Cool D and Gomez Cambronero J , 'Phospholipase D2 (PLD2) shortens the time required for myeolid leukemic cell differentiation: Mechanism of action. ', J. Biol. Chem. ,287, 393-407, 2012.

Gomez-Cambronero J and Henkels K , 'Cloning of PLD2 from baculovirus for studies in inflammatory responses', Methods Mol. Biol. , 861, 201-25, 2012.

Gomez-Cambronero J and Henkels K , 'Phospholipase D', Encyclopedia of Signaling Molecules, 17, 1409-19, 2012.

Gomez-Cambronero J, Allen L-A H, Cathcart MK, Justment L, Kovacs EJ, McLeish KR and Nauseef WM , 'How to Write Your First Grant Proposal: An Educational Workshop Organized by the Society for Leukocyte Biology. ',Nature Immunology, 13, 105-8, 2012.

Gomez-Cambronero J., 'Biochemical and cellular implications of a dual lipase-GEF function of phospholipase D2', J Leukoc. Biol., 92, 461-7, 2012.

Gomez-Cambronero J., 'Structure analysis between the SWAP-70 RHO-GEF and the newly described PLD2-GEF', Small GTPases , 3, 202-8, 2012.

Mahankali M, Henkels KM, Alter G, Gomez-Cambronero J., 'Identification of the Catalytic Site of Phospholipase D2 (PLD2) Newly Described GEF Activity', J Biol. Chem., 287, 41417-31, 2012.

Ye Q, Kantonen S, Gomez-Cambronero J. , 'Serum Deprivation Confers the MDA MB-231 Breast Cancer Line with an EGFR/JAK3/PLD2 System That Maximizes Cancer Cell Invasion', J Mol Biol. , PMID: 23238254, PMID: 23238254, 2012.

Dr. Hostetler

A. Kiselyuk, S.-H. Lee, S. Farber-Katz, M. Zhang, S. Athavankar, T. Cohen, A.B. Pinkerton, M. Ye, P. Bushway, A.D. Richardson, H.A. Hostetler, M. Rodriguez-Lee, L. Huang, B. Spangler, J. Higginbotham, J. Cashman, H. Freeze, P. Itkin-Ansari, M.I. Dawson, F. Schroeder, Y. Cang, M. Mercola, and F. Levine., 'HNF4a antagonists discovered by a high-throughput screen for modulators of the human insulin promoter', Chemistry and Biology , 19, 806 818, 2012.

A.O. Kolawole, P. Sharma, R. Yan, K.J.E. Lewis, H.A. Hostetler, and K.J.D.A. Excoffon, 'The PDZ1 and PDZ3 domains of MAGI-1 regulate the eight-exon isoform of the coxsackievirus and adenovirus receptor', Journal of Virology , 86, 9244-9254, 2012.

M. E. Schroeder, H. A. Hostetler, F. Schroeder, and J. Ball, 'Elucidation of the rotavirus NSP4-caveolin-1 and cholesterol interactions using synthetic peptides', Journal of Amino Acids , 2012, 575180, 16, 2012.

Dr. Kadakia

Singh AP, Arora S, Bhardwaj A, Srivastava SK, Kadakia MP, Wang B, Grizzle WE, Owen LB, Singh S., 'CXCL12/CXCR4 Protein Signaling Axis Induces Sonic Hedgehog Expression in Pancreatic Cancer Cells via Extracellular Regulated Kinase- and Akt Kinase-mediated Activation of Nuclear Factor ?B: IMPLICATIONS FOR BIDIRECTIONAL TUMOR-STROMAL INTERACTIONS.', J Biol Chem, 287, 39115-24, 2012. (In Press)

Dr. Leffak

Liu, G., Chen, X., and Leffak, M., 'Oligodeoxynucleotide Binding to (CTG)(CAG) Microsatellite Repeats Inhibits Replication Fork Stalling, Hairpin Formation, and Genome Instability', Mol. Cell. Biol. (In Press)

Guoqi Liu, Michael Leffak, 'Instability of (CTG)(CAG)n Trinucleotide Repeats and DNA Synthesis', Cell and Bioscience, 2 (1), 7-20, 2012.

Guoqi Liu, Shere Myers, Xiaomi Chen, John Bissler, Richard Sinden, Michael Leffak , 'DNA replication fork stalling and checkpoint activation by a PKD1 locus Pu¥Py tract', J. Biol. Chem., 287 (40), 33412-33423, 2012.

Guoqi Liu, Xiaomi Chen, Yanzhe Gao, Todd Lewis, Joanna Barthelemy, and Michael Leffak , 'Altered replication in human cells promotes DMPK (CTG)(CAG)n repeat instability', Molecular and Cellular Biology, 32 (9), 1618-1632, 2012.

Zhuo Wang1, Elaine Kim, Michael Leffak and Yong-jie Xu, 'Treslin, DUE-B, and GEMC1 cannot complement Sld3 mutants in fission yeast', FEMS Yeast Research, 12 (4), 486-490, 2012.

Dr. Markey

A. Sharma, M. Markey, K. Torres-Munoz, S. Varia, M.Kadakia, A. Bubulya and P.A. Bubulya, 'Son maintains accurate splicing for a subset of human pre-mRNAs', Journal of Cell Science, 124, 4286-4298, 2011.

Mandke P, Wyatt N, Fraser J, Bates B, Berberich SJ, Markey MP., 'MicroRNA-34a modulates MDM4 expression via a target site in the open reading frame.', PLoS ONE, 7(8), e42034, 2012.

Dr. Organisciak

D. Organisciak, P. Wong, C. Rapp, R. Darrow, A. Ziesel, R. Rangarajan, J. Lang, 'Light Induced Retinal Degeneration is Prevented by Zinc, a Component in the AREDS Formulation', Photochemistry and Photobiology, 88, 1396-1407, 2012.

Dr. Paietta

B. S. Reveal and J. V. Paietta, 'Analysis of the sulfur-regulated control of the cystathionine gamma-lyase gene of Neurospora crassa', BMC Research Reports, 5, 339, 2012.

Dr. Paliy

L. Rigsbee, R. Agans, V. Shankar, H. Kenche, H. Khamis, S. Michail, and O. Paliy , 'Quantitative profiling of distal gut microbiota of adolescents with irritable bowel syndrome', Am J Gastroenterol, 107(11), 1740-51, 2012.

O. Paliy and R. Agans , 'Application of phylogenetic microarrays to interrogation of human microbiota', FEMS Microbiol Ecology, 79(1), 2-11, 2012.

Dr. Prochaska

K. Rubinson, C. Pokalsky, S. Krueger, and L. J. Prochaska, 'Functional Native Beef Heart Mitochondrial Cytochrome c oxidase Forms Dimers in Lipid Bilayers: The Structure by Small-Angle Neutron Scattering (SANS)',The Protein Journal. (In Press)

LJ Prochaska and T. Cvetkov, 'the mitochondrial respiratory chain', Encyclopedia of Biophysics, European Biophysical Societies, (V. Davidson, editor) Springer. (In Press)

G., Onady, N. Reo, and L. J. Prochaska, 'pH and Acid Base', MedEdPORTAL; 2011. Available from: www.mededportal.org/publication/8466.

Dr. Reo

A.L. Forgacs, M.N. Kent, M.K. Makley, B. Mets, N. DelRaso, G.L. Jahns, L.D. Burgoon, T.R. Zacharewski, and N. V. Reo, 'Comparative Metabolomics and Genomics Analysis of TCDD-Elicited Metabolic Disruption in Mouse and Rat Liver', Toxicological Sciences, 125, 41-55, 2012.

P.E. Anderson, A. Ranabahu, D.A. Mahle, N.V. Reo, M.L. Raymer, A. Sheth, N.J. DelRaso, 'Localized Deconvolution: Characterization of NMR-based Metabolomics Spectroscopic Data Using Localized High-Throughput Deconvolution', Proceedings of the 13th Annual International Conference on Bioinformatics and Computational Biology (BIOCOMP 2012), 229-235, 2012.

Dr. Xu

Z. Wang, E. Kim, M. Leffak, and Y. J. Xu, 'Treslin, DUE-B and GEMC1 cannot complement Sld3 mutants in fission yeast', FEMS Yeast Research, 12, 4, 2012.

Adjunct/Voluntary Faculty Published Articles (In Press)

Dr. Dennis

Qin G, Dennis PB, Zhang Y, Hu X, Bressner JE, Sun Z, Crookes-Goodson WJ, Naik RR, Omenetto FG and Kaplan DL., Recombinant reflectin-based optical materials, Journal of Polymer Science, Part B: Polymer Physics 2013. (In Press)

Dennis PB, Slocik JM, and Naik, RR., Engineered “Cages” for Design of Nanaostructured Inorganic Materials, Coordination Chemistry in Protein Cages: Principles, Design, and Applications., 2013, John Wiley & Sons, Inc., pp. 329-349. (In Press)

Kreit E, Mäthger LM, Hanlon RT, Dennis PB, Naik RR, Forsythe E, Heikenfeld J., Biological versus electronic adaptive coloration: how can one inform the other?, J R Soc Interface. 2012 Sep 26. [Epub ahead of print]

Dennis PB, Walker AY, Dickerson MB, Kaplan DL, Naik RR., Stabilization of organophosphorus hydrolase by entrapment in silk fibroin: formation of a robust enzymatic material suitable for surface coatings, Biomacromolecules. 2012 Jul 9;13(7):2037-45.

Pritchard EM, Dennis PB, Omenetto F, Naik RR, Kaplan DL., Review physical and chemical aspects of stabilization of compounds in silk, Biopolymers. 2012 Jun;97(6):479-98.

Dr. Naik

Dennis P. B., Walker A. Y., Dickerson M. B., Kaplan D. L. & Naik R. R. Stabilization of organophosphorus hydrolase by entrapment in silk fibroin: formation of a robust enzymatic material suitable for surface coatings. Biomacromolecules 13, 2037-45

Pritchard E. M., Dennis P. B., Omenetto F., Naik R. R., Kaplan D. L. (2012) Physical and chemical aspects of stabilization of compounds in silk. Biopolymers 97, 479-98.

Dr. Rubinson

Kenneth A. Rubinson, Christine Pokalsky, Susan Krueger, and Lawrence J. Prochaska, Structure Determination of Functional Membrane Proteins using Small-Angle Neutron Scattering (SANS) with Small, Mixed-Lipid Liposomes: Native Beef Heart Mitochondrial Cytochrome c oxidase Forms Dimers, Protein Journal (In Press)

Kenneth A. Rubinson and Curtis W. Meuse, Deep Hydration: Poly(ethylene glycol) M_w 2000-8000 Da Probed by Vibrational Spectrometry and Small-Angle Neutron Scattering and Assignment of $\Delta G°$ to Individual Water Layers. Polymer (In Press)

Dr. Seybold

K. C. Gross, C. M. Hadad, and P. G. Seybold, Charge Competition in Halogenated Hydrocarbons, Int. J. Quantum Chem. 112, 219-229 (2012)

P. G. Seybold, "Quantum Chemical QSPR Estimation of the Acidities and Basicities of Organic Compounds," Adv. Quantum Chem. 64 (Chap. 3) 83-104 (2012). [Invited paper]

P. G. Seybold and W. C. Kreye, "Theoretical Estimation of the Acidities of Alcohols and Azoles in Gas Phase, DMSO, and Water," Int. J. Quantum Chem. 112, 3769-3776 (2012)

Papers Submitted

Dr. Alter

Lauf, P., Heiny, J., Miller, J., Lepera, M., Alter, G., Brown, T., Adragna, N., 'Chelerythrine Inhibition of the Na+/K+ Pump Reveals Membrane K+ Transporters as Potential Early Signal Transducers of Apoptosis', Cellular Physiology and Biochemistry.

Dr. Hostetler

D.P. Oswal, M. Balanarasimha, S.D. Rider, Jr., and H.A. Hostetler, 'Divergence between human and murine peroxisome proliferator-activated receptor alpha ligand specificities', Journal of Lipid Research.

Dr. Kadakia

M.K. Leonard, P.A Bubulya,and M.P. Kadakia, 'The PTEN-Akt pathway impacts the integrity and composition of mitotic centrosomes', Cell Cycle.

M.K. Leonard,and M. Kadakia, '?Np63? represses nuclear translocation of PTEN by inhibition of NEDD4-1 in keratinocytes', Archives of Dermatologic Research.

Dr. Leffak

Xiaomi Chen, Guoqi Liu, and Michael Leffak, 'ORC, MCM, DUE-B and Cdc45 are recruited to active replication origins in human chromosomes', Nucleic Acids Research.

Dr. Organisciak

D Organisciak, P Wong, C. Rapp, R. Darrow, A. Ziesel, R. Rangarajan, J. Lang, 'Light Induced Retinal Degeneration is Prevented by Zinc, a Component in the AREDS Formulation', Photochemistry and Photobiology.

Dr. Paietta

B. S. Reveal and J. V. Paietta, 'Sulfur-regulated control of the met-2 gene of Neurospora crassa encoding cystathionine beta-lyase', BMC Research Reports.

Dr. Paliy

O. Paliy, C.J. Piyathilake, A. Kozyrskyj, G. Celep, F. Marotta, and R. Rastmanesh , 'Excess body weight during pregnancy and offspring obesity: potential mechanisms', Nutrition.

Dr. Rider

D. P. Oswal, M. Balanarasimha, S.D. Rider, Jr., and H.A. Hostetler, 'Divergence between human and murine peroxisome proliferator-activated receptor alpha ligand specificities', Journal of Lipid Research.

S. D. Rider, Jr., and G. Zhu, 'Novel inhibitors identified via high-throughput screening for a parasite-specific histone deacetylase', Journal of Biomolecular Screening.

Adjunct/Voluntary Faculty Papers Submitted

Dr. Seybold

Nora E. Hunter and Paul G. Seybold, Theoretical Estimation of the Aqueous pKas of Thiols, submitted to Current Computer-Aided Drug Design, [L. B. Kier special issue]

Abstracts/Presentations at Conferences

Dr. Alter

Oswal, D., Balanarasimha, M., Kaliappan, A., Alter, G., Rider, S., Hostetler, H., Endogenous Ligand Binding Profile of Full-Length Human PPAR alpha in Comparison to Murine PPAR alpha, Xenobiotic Receptors: Physiological Regulators and Mediators of Toxicity, Summer Symposium in Molecular Biology, Penn. State University, University Park, Pennsylvania 7-22-2012 – 7 24-2012 (Poster).

Dr. Berberich

Patrick Feasel, Kelly R. Miller Ph.D., David Hitch, M.D., Remah Ali, Rebecca Tuttle M.D. and Steven J. Berberich, Ph.D, Molecular analysis of YPEL3 gene mutations and splice variants in human tumors., BSOM medical student research forum, Dayton, OH 4/5/2012 - 4/5/2012 (Poster).

Kelly Miller, Patrick Feasel, David C. Hitch, Larrilyn Yelton, Esra Shermadou and Steven J. Berberich, Loss of YPEL5 triggers growth arrest and repression of S phase genes in cancer cells., BSOM Central Research Forum, Dayton, OH 11/29/2012 - 11/29/2012 (Poster).

Dr. Cambronero

Mahankali, M. and Gomez-Cambronero, J. , The discovery of a new Guanine nucleotide Exchange Factor (GEF), American Society for Cell Biology (ASCB), San Francisco, CA 12/5/2012 - 12/9/2012 (Platform).

Ye, Q, Kantonen, S. Henkels K. and Gomez-Cambronero, J. , A JAK3/FES/PLD2 signaling axis in cancer cells, Ohio Physiological Society, Wright State University, Dayton, OH 11/1/2012 - 11/2/2012 (Platform).

Dr. Hostetler

V.V. Lozada-Fernandez, A. Kaliappan, D.P. Oswal, and H.A. Hostetler, The oxysterol responsive nuclear receptor LXRa binds to fatty acid derivatives. , 2012 Annual Biomedical Research Conference for Minority Students (ABRCMS), San Jose, CA 11/7/2012 - 11/10/2012 (Poster).

V.V. Lozada-Fernandez, A. Kaliappan, D.P. Oswal, and H.A. Hostetler, The oxysterol responsive nuclear receptor LXRa binds to fatty acid derivatives., The STREAMS Poster Symposium, Wright State University 8/14/2012 – 8/14/2012 (Poster).

D.P. Oswal, M. Balanarasimha, A. Kaliappan, G.M. Alter, S.D. Rider, Jr., and H.A. Hostetler, Endogenous ligand binding profile of full-length human PPARa in comparison to mouse PPARa. , Xenobiotic Receptors: Physiological Regulators and Mediators of Toxicity, Summer Symposium in Molecular Biology, Pennsylvania State University, University Park, PA 7/22/2012 – 7/24/2012 (Poster).

D.P. Oswal, M. Balanarasimha, A. Kaliappan, S.D. Rider, Jr., and H.A. Hostetler, Fatty acids and their thioester derivatives as ligands for human PPARa Ð a comparison to murine PPARa. , Experimental Biology 2012, San Diego, CA 4/21/2012 - 4/25/2012 (Poster).

A. Karumuri, D.P. Oswal, T. Daboiku, H.A. Hostetler, and S.M. Mukhopadhyay, Silver nano-particles anchored to hierarchical carbon substrates: robust devices for chemical-free water disinfection, University Clean Energy Alliance of Ohio conference, Ohio State University, Columbus, OH 4/2/2012 - 4/3/2012 (Poster).

Dr. Kadakia

M. K. Leonard, R. Kommagani, V Payal, L. D. Mayo, H.N. Shamma and M.P. Kadakia., DeltaNp63 alpha regulates keratinocyte proliferation by controlling PTEN expression and localization, 10th International Skin Carcinogenesis Conference, Columbus 6-12-2012 - 6-24-2012 (Platform).

G.H. Gracia-Maldonado, M.K. Leonard, T. Oberyszyn and M. P. Kadakia, Evaluation of Dietary Vitamin D on ?Np63? and VDR Expression in UVB Induced Skin Cancers, 2. 10th International Skin Carcinogenesis Conference, Columbus, Ohio 6-21-2012 - 6-24-2012 (Poster).

N. Hill, A.Whitlatch and M. P. Kadakia, Dose dependent effects of 1 alpha 25 dihydroxyvitamin D3 on keratinocyte proliferation and deltaNp63alpha stabilization, 10th International Skin Carcinogenesis Conference, Columbus, Ohio 6-21-2012 - 6-24-2012 (Poster).

N Hill, M.K. Leonard, A. Whitlatch, and M. P. Kadakia, Dose Dependent Effects of 1?25-dihydroxyvitamin D3 on Keratinocyte Proliferation and ?Np63? Stabilization, Central Research Forum, Wright State University 11-29-2012 – 11-29-2012 (Poster).

M.K. Leonard, V Payal, R. Kommagani, L. D. Mayo, H. N. Shamma, and M. P. Kadakia, ?Np63? Regulates Keratinocyte Proliferation by Controlling PTEN Expression and Localization, Central Research Forum, Wright State University 11-29-2012 - 11-29-2012 (Poster).

Dr. Leffak

Liu, G., Chen, X., Lewis, T., Barthelemy, J., Leffak, M., Altered replication in human cells promotes DMPK (CTG)(n) . (CAG)(n) repeat instability, Midwest DNA Repair Symposium, Cincinnati, OH 5/19/2012 - 5/20/2012 (Poster).

Michael Leffak, Guoqi Liu, and Xiaomi Chen, Replication dependent instability of (CTG)á(CAG) trinucleotide repeats, Maintenance of Genome Stability 2012, Nassau, Bahamas 5/5/2012 - 5/8/2012 (Poster).

Leffak, M., Liu, G., Myers, S., Chen, X., Replication polarity-dependent fork stalling, checkpoint activation and genome instability induced by a mirror repeat Pu¥Py tract from the human PKD1 locus, 7th International Meeting of Microsatellite Instability & Human Disease, Mont Ste. Odile, Strasbourg, France 6/9/2012 - 6/14/2012 (Poster).

Dr. Markey

S. Naik, A.D. Daniel, M. N. Kent, M. P. Markey, Genomic Profiling to Diagnose Melanoma, The 10th International Skin Carcinogenesis Conference, The Ohio State University Comprehensive Cancer Center Ð Arthur G. James Cancer Hospital and Richard J. Solove Research Institute, Columbus, OH 6/21/2012 – 6/24/2012 (Poster).

A. Sharma, M. Markey, K.Torres-Mu–oz, S.Varia, M.Kadakia, A. Bubulya, and P. A. Bubulya, Son maintains accurate splicing for a subset of human pre-mRNAs , Keystone Symposium: Eukaryotic Transcription, Snowbird, UT 3/31/2012 – 4/5/2012 (Poster).

S. Naik, M. Kent, M. Markey, Biomarkers of Melanoma, WSU Central Research Forum, Dayton, OH 11/29/2012 - 11/29/2012 (Poster).

T. Smith, S. Naik, M. Kent, M. Markey, Genetic Markers for Melanoma, NIDDK STEP-UP Summer Scientific Research Symposium, Bethesda, MD 8/12/2012 - 8/16/2012 (Platform).

Dr. Organisciak

D.T. Organisciak, R.M. Darrow, C.M Rapp, R. Rangarajan, and J.C.Lang, Prevention of Light Damage by the Trace Element Znc and Natural Antioxidant Rosemary, Association for Research in Vision and Ophthalmology, Fort Lauderdale Fl. 5/6/2012 - 5/10/2012 (Poster).

J.C.Lang, A.Ziesel, D.T.Organisciak, C.Rapp, R.Darrow, R.Rangarajan, and P.Wong, Zinc Modulates the Genetic Signature of the Retina in Response to Acute Light Exposure, Association for Research in Vision and Ophthalmology, Fort Lauderdale FL 5/6/2012 - 5/10/2012 (Poster).

Dr. Paliy

O. Paliy, Fecal transplantation of patients with Clostridium difficile associated disease results in the complete replacement of original distal gut microbiota, International Conference on Clinical Microbiology & Microbial Genomics , San Antonio, TX 11/11/2012 - 11/14/2012 (Platform).

O. Paliy, V. Shankar, M.J. Hamilton, T. Unno, A. Kilburn, A. Khoruts, and M.J. Sadowsky, Fecal transplantation of patients with Clostridium difficile associated disease studied with phylogenetic microarrays, high-throughput sequencing, and fluorescent in situ hybridization, 4th ASM Conference on Beneficial Microbes, San Antonio, TX 10/22/2012 - 10/26/2012 (Poster).

O.Paliy , Human intestinal microbiota: partners for life, Ohio Branch ASM annual meeting , Mason, OH 4/20/2012 - 4/21/2012 (Platform).

V. Shankar, M. Hamilton, A. Kilburn, T. Unno, A. Khoruts, M.J. Sadowsky, and O. Paliy, Fecal transplantation of patients with Clostridium difficile associated disease results in complete replacement of original distal gut microbiota, Ohio Branch ASM annual meeting , Mason, OH 4/20/2012 - 4/21/2012 (Poster).

O. Paliy, L. Rigsbee, R. Agans, H. Kenche, and S. Michail , Quantitative profiling of distal gut microbiota of adolescents with IBS by Microbiota Array, Ohio Branch ASM annual meeting , Mason, OH 4/20/2012 - 4/21/2012 (Poster).

Dr. Prochaska

Lawrence J. Prochaska, Robert R. Geyer, Jonathan P. Hosler, Audie Thompson, Lakshman Varanasi, Gerald M. Alter, Aimin Liu , Suicide Inactivation in Rhodobacter Sphaeroides Cytochrome c Oxidase Lacking Subunit III Coincides with Release of CuB and Major Conformational Changes in Subunit I, Biophysical Society, San Diego CA 3/2/2012 - 3/7/2012 (Poster).

Benjamin A. Schmitt, Nicholas J. Garvin, Subbaraju Budharaju, David B. Reynolds, Rebecca J. Darner, Lawrence J. Prochaska, Mark P. Anstadt, Direct Ventricular Compression Improves Myocardial Mechanical Synchrony of the Acutely Failing Heart, American Heart Association, Orlando, FA 11/1/2012 – 11/4/2012 (Platform).

K.Alnajjaar, J. Hosler, and L.J. Prochaska, Isolation and Characterization of a Triple Histidine Mutant in the Proton-Collecting Antenna of Cytochrome c Oxidase In Rhodobacter Sphaeroides ., Mitochondria: Energy, Signals and Homeostasis,.ASMBM Meeting, E. Lansing MI 6/25/2012 - 6/30/2012 (Poster).

Dr. Reo

D.A. Mahle, A. Soto, V.T. Chan and N.V. Reo, Omics Evaluation of Region Specific Changes Induced by Non-Cholinergic Diisopropylfluorophosphate (DFP) Exposure in Fischer 344 Rat Brain, Society of Toxicology 51th Annual Meeting, San Francisco, CA 3-11-2012 - 3-15-2012 (Poster).

I. Sibomana, N. DelRaso, M. Raymer, E. Moyer and N.V. Reo, Functional Metabolomics: A Methodology to Enhance Assessment of Tissue Function, Ohio Systems Biology Workshop, Miami Valley Innovation Center, Procter & Gamble, Co., Cincinnati, OH 3/6/2012 - 3/6/2012 (Platform).

P.E. Anderson, A. Ranabahu, D.A. Mahle, N.V. Reo, M.L. Raymer, A. Sheth, N.J. DelRaso, Localized Deconvolution: Characterizing NMR-based Metabolomics Spectroscopic Data Using Localized High-Throughput Deconvolution., The 13th Annual International Conference on Bioinformatics & Computational Biology (BIOCOMP 2012), Las Vegas, NV 7/16/2012 - 7/19/2012 (Platform).

S.A. Bellinger, C.T. Fitch, A.E. Neuforth, N. V. Reo and G.A. Kleven, Bio Behavioral Analysis of Prenatal/Postnatal Pesticide Exposure in Mice Reveals Silent Vulnerability to Parkinsons Disease., International Society for Developmental Psychobiology, 45th Annual Meeting, New Orleans, LA 10/10/2012 - 10/13/2012 (Poster).

I. Sibomana, N. DelRaso, D. Mattie, P.E. Anderson, E. Moyer, M.L. Raymer and N.V. Reo, Functional Metabolomics Enhances Assessment of Tissue Function as Demonstrated in a Rat Model of Low-Dose D-Serine Exposure, WSU Central Research Forum, Wright State University 11/29/2012 - 11/29/2012 (Poster).

Dr. Rider

D. P. Oswal, M. Balanarasimha, A. Kaliappan, S. D. Rider, Jr., and H. A. Hostetler, Fatty acids and their thioester derivatives as ligands for human PPAR alpha comparison to murine PPAR alpha, Experimental Biology 2012, San Diego, CA 4-21-2012 - 4-25-2012 (Poster).

D. P. Oswal, M. Balanarasimha, A. Kaliappan, G. M. Alter, S. D. Rider, Jr., and H. A. Hostetler, Endogenous ligand binding profile of full-length human PPAR alpha in comparison to mouse PPAR alpha, Xenobiotic Receptors: Physiological Regulators and Mediators of Toxicity, Summer Symposium in Molecular Biology, Pennsylvania State University, University Park, PA 7-22 2012 - 7-24-2012 (Poster).

Invited Lectures/Presentations

Dr. Berberich

Inactivation of the cellular senescence inducer YPEL3 in human tumors, MD Anderson, Department of Cancer Biology, Houston Texas, 3/26/2012 – 3/27/2012.

Dr. Cambronero

New enzymatic activities for a lipase and their catalytic sites, Society Leukocyte Biology, Maui, Hawaii, 10/31/2012 - 11/2/2012.

Phospholipase activity enhancement as a result of and selected protein-protein nteractions. , FASEB Summer Research Conferences, Vermont Academy, Saxtons Rivers, VT, 07/3/2012 - 07/8/2012.

Writing your first Grant (for junior faculty), SLB Professional Development Workshop, Maui, Hawaii, 10/31/2012 - 11/2/2012.

Dr. Leffak

Mechanisms of (CTG)/(CAG) Microsatellite Instability, University of Cincinnati Department of Molecular Genetics, Biochemistry & Microbiology, Univ. Cinti., 10/22/2012.

Oligodeoxynucleotide Inhibition of (CTG)/(CAG) Repeat Replication Fork Stalling, Hairpin Formation, and Genome Instability, FASEB Science Research Conference: "Dynamic DNA Structures In Biology", Saxtons River, VT., 6/17/2012 - 6/22/2012.

Dr. Paliy

Use of phylogenetic microarrays to interrogate complex human-associated microbial communities, Target Meeting 2012, Dayton, OH, 05/18/2012.

Service as Reviewer

i. Review of Manuscripts for Journals (#)

Ad Hoc Reviewer

Dr. Alter
- Biochemistry (1)
- Bioinformatics (4)
- Journal of Biological Chemistry (1)

Dr. Berberich
- Genes & Cancer (1)

Dr. Cambronero
- Blood (2)
- J Biol Chem (1)
- J. Leukocyte Biol (3)
- Mol Cell Biol (1)

Dr. Hostetler
- Lipids (1)
- Physiological Genetics (1)

Dr. Kadakia
- Cell Death and Disease (1)
- Oncogene (1)
- PLoS One (1)

Dr. Leffak
- Bioessays (1)
- Biofactors (1)
- Cell Cycle (2)
- Gene (2)
- Human Molecular Genetics (1)
- Journal of Biological Chemistry (2)
- Molecular and Cellular Biology (2)
- Nature (1)
- Nucleic Acids Research (7)
- PNAS (1)

Dr. Organisciak
- Experimental Eye Research (2)
- Investigative Ophthalmology and Visual Science (2)
- Journal of Lipid Research (1)
- Molecular Vision (3)

Photochemistry and Photobiology (1)

Dr. Paietta
DNA and Cell Biology (1)
Fungal Biology (1)
Molecular Biotechnology (1)

Dr. Paliy
BMC Microbiology (1)
Gene (1)
Int J Infectious Diseases (1)
PNAS (1)
Scientific Reviews (1)
Biochimicia Biophysica acta (3)

Editorial Board Member

Dr. Paliy
Journal of Phylogenetics and Computational Biology (1)

Dr. Prochaska
Frontiers in Mitochondrial Physiology (1)

Other

Dr. Paliy
Ohio University (1)

Dr. Prochaska
Textbook Wiley, Voet, Voet and Pratt (1)

ii. Review of Grant Proposals (#)

Ad Hoc Reviewer/Study Section Member

Dr. Berberich
National Institute of Health-CAMP (10)

Dr. Cambronero
AHA (8)
NIH (30)
NIH-Special Emphasis (7)

Dr. Hostetler
Diabetes UK (2)

Dr. Kadakia
DOD, Ovarian Cancer Research Program (4)

Dr. Leffak
Princes Beatrix Finds, The Netherlands (1)
Welcome Trust, U.K. (1)

Dr. Paliy
Netherlands Office of Scientific Research (1)
NIH NIGMS (8)

Dr. Prochaska
American Heart Association National Center (12)

Dr. Reo
NIH, Special Emphasis (5)

Invitation to Participate in or Chair Symposia

Dr. Cambronero
Society for Leukocyte Biology, Writing your first Grant (for junior faculty), 10/31/2012 - 11/2/2012, Maui, Hawaii. (Session Chair)

Dr. Markey
Celebration of Research, Scholarship, and Creative Activities, Session 4., 04/13/2012, Wright State University. (Session Chair)

Dr. Prochaska
Mitochonrial respiratory chain diseases and therapeutics, modeling mitochondrial respiratory chain diseases; mutational analysis of cytochrome oxidase subunit III, 3/2/2012 - 3/7/2012, San Diego, CA. (Invited Participant)
Mitochonrial respiratory chain diseases and therapeutics, see next record, 3/2/2012 - 3/7/2012, San Diego, CA. (Session Co-Chair)

Distinguished Memberships/Titles

Offices Held in National/Professional Organizations

Dr. Berberich
- Senior Editorial Board: American Journal of Cancer Research

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

Dr. Kadakia
- Associate Member in the American Association of Cancer Researchers

Dr. Leffak
- Elected Fellow, AAAS (Since 2008)

Dr. Markey
- Wright State University Center for Genomics Research (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
- Finance Committee Biophysical Society (2012-2015)
- Secretary/Treasurer Sigma Xi- WSU Chapter
- Treasurer, AAUP WSU, elected by the Faculty

Consultantships

Dr. Alter
- Intrexon Corp., Roanoke, VA

Dr. Cambronero
- Iowa University
- NIH-colleague

Dr. Paliy
- Procter & Gamble, Ohio
- Sergey Gazenko-NanoLogic

Department Awards

Faculty Awards

Dr. Berberich
Faculty Mentor Award-BSOM

Dr. Cambronero
Honorary Professor, Guangzhou University, China

Dr. Prochaska
Frederick A. White Distinguished Professor, Service (Year 3)

Student Awards

Dr. Cambronero
Madhu Mahankali, AHA Pre-doctoral Fellowship

Dr. Hostetler
Andrea Davis, Undergraduate Research and Independent Project Support Grant
Valery Lozada, National ABRCMS Biomedical Research, Outstanding Poster Presentation in Biochemistry category
Valery Lozada, National ABRCMS Biomedical Research, Outstanding Poster Presentation in Interdisciplinary Research
Dhawal Oswal, ASBMB Travel Award

Dr. Markey
Pooja Mandke, Graduate Student Excellence Award

Paliy Lab
Richard Agans, GSA Original Work Grant 2012
Christina Roth, Undergraduate Research Support Grant
Vijay Shankar, GSA Original Work Grant 2012

6. Service

SERVICE (Committee Members/Representatives)

Biochemistry & Molecular Biology	12
BMS Ph.D. Program	9
Boonshoft School of Medicine	13
College of Science and Mathematics	11
University	22

Dr. Alter
BMB
Faculty Development Committee
BMS
Director BMS Program

COSM
Academic Computing and Technology
Graduate Studies Committee, Faculty Membership Subcommittees
University
Academic Services Committee
Graduate Council
Information Technology Integration and Effectiveness Committee
Learning with Disabilities Steering Committee
Policies Committee of the Graduate Council (Chair)
Supercomputing Center User's Group: WSU Rep for a state-wide committee

Dr. Berberich
BMB
Faculty Development Committee
BMS
APC Committee
BSOM
Dean Executive Committee
FCC
Wright Curriculum Task Force
University
Faculty Senate

Dr. Cambronero
BMB
Faculty Development Committee (Chair)
BMS
Admissions
BSOM
Bylaws Committee

Dr. Hostetler
BMB
Bylaws Subcommittee
Master's Program Admissions Committee
COSM
Academic Computing and Technology Committee

Dr. Kadakia
BMB
Director, BMB Master's Program 2011-2012
Departmental Liaison for Graduate Students
BMS
Academic Policies Committee
BSOM
Associate Director for Center for Genomics Research

University
Graduate Council Committee
Graduate Council Student Affairs Committee

Dr. Leffak
BMB
Faculty Development Committee
COSM
Dean's Research Advisory Committee
New Ph.D. Program Committee, Math/Stats & Physics
P&T Committee
Undergraduate Student Petitions Committee

Dr. Markey
BMS
Nominating Committee
BSOM
Research Affairs Seed Grant Committee

Dr. Paietta
BMB
M.S. Admissions Committee
BMS
Curriculum Committee
Nominating Committee
COSM
Undergraduate Curriculum Committee

Dr. Paliy
BMS
Ph.D. Program Admissions Committee
University
WSU Institutional Biosafety Committee
Other
M&I Master's Program Admissions Committee

Dr. Prochaska
BMB
Diversity Committee (Chair)
Graduate Admissions Committee
BMS
Curriculum Committee
BSOM
Biennium I Subcommittee
Curriculum Reform Task Force
Graduate Affairs Subcommittee

CSOM

Diversity Committee (Chair)
Equity Advisor
Faculty Development Committee (Elected Chair)
Steering Committee (Elected)

University

AAUP, Committee for Women
AAUP, Treasurer
Athletic Council (Chair)
Athletic Council, Constitution and Bylaws
Athletic Council, Gender Equity Subcommittee
Diversity Advocacy Committee
Diversity Committee, Policies and Practices Subcommittee (Chair)
Multicultural Affairs (Vice President)
Radiation Safety Committee (Chair)
Quest for Community, Planning Committee

Dr. Reo

BMB

Bylaws Evaluation Committee, Chair

BMS

Academic Policies Committee
Area of Concentration Recruiter for Integrative Biology and Toxicology
Curriculum Committee

BSOM

Biennium I Subcommittee
Dean Search Committee
Steering Committee for MBM Course

University

Building & Grounds Committee, BSOM Representative

Dr. Xu

BMB

Admissions Committee

BMS

Admissions Committee

Department Programs

Outreach Programs

Dr. Alter

Science Olympiad, judge at invitational meet April 20, 2012, Troy High School

Departmental Seminar Series

Winter Quarter 2012:

Dr. Anna Malkova, Department of Biology, Indiana University Purdue
Dr. Julian G. Cambronero, Department of Biochemistry and Molecular Biology, Wright State University
Dr. Courtney Sulentic, Department of Pharmacology and Toxicology, Wright State University
Dr. Lawrence Gazda, The Rogosin Institute, Xenia Division
Dr. Sohaib Khan, Department of Cancer & Cell Biology, Vontz Center for Molecular Studies, UC College of Medicine
Dr. Matthew Gentry, Molecular and Cellular Biochemistry, University of Kentucky
Dr. Nicholas Reo, Department of Biochemistry and Molecular Biology, Wright State University

Spring Quarter 2012:

Dr. Yi-Fen Lee, School of Medicine and Dentistry, University of Rochester
Dr. Menashe Bar-Eli, Department of Cancer Biology, UT M.D. Anderson Cancer Center
Dr. David Kramer, Department of Biochemistry and Molecular Biology, Michigan State University
Dr. Brian Ahmer, Department of Microbiology, Ohio State University
Dr. Eishi Noguchi, Department of Biochemistry and Molecular Biology, Drexel University College of Medicine
Dr. Elliott Brown, Department of Physics and Electrical Engineering, Wright State University
Dr. Yu-Ying He, University of Chicago, Department of Medicine, Section of Dermatology

Fall Semester 2012:

Dr. Peter Lauf, Professor Emeritus, Cell Biophysics Group, Departments of Pathology, and Pharmacology & Toxicology, Wright State University
Dr. Sean Post, MD Anderson Cancer Center, The University of Texas
Dr. Robert Brosh, Section of DNA Helicases, National Institute on Aging, National Institutes of Health
Dr. Carolyn Worby, Department of Pharmacology, University of California, San Diego
Dr. Huangen Ding, Department of Biological Sciences, Louisiana State University
Dr. Samuel Godar, Vontz Center for Molecular Studies, University of Cincinnati Medical Center
Dr. John Crabb, Cole Eye Institute, Cleveland Clinic Lerner College of Medicine
Dr. Chang-Deng Hu, Dept of Medical Chemistry and Molecular Pharmacology, Purdue University
Dr. Earl Harrison, College of Education and Human Ecology, The Ohio State University
Dr. Viswanathan Natarajan, Departments of Pharmacology & Medicine, University of Illinois
Dr. Amanda Toland, Department of Molecular Virology, Immunology and Medical Genetics, The Ohio State University
Dr. Bruce Freeman, Department of Pharmacology & Chemical Biology, University of Pittsburgh School of Medicine
Dr. Michael Kennedy, Department of Chemistry and Biochemistry, Miami University