

# **Biomedical Research**

**Annual Report 2012-2013**



**Bankhead-Coley  
Cancer Research  
Program**

**James and Esther  
King Biomedical  
Research Program**

**Biomedical Research Advisory Council**

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### Florida Biomedical Research Program Overview

Since 2001, the Florida legislature has recognized the need to support vital research conducted in both academic and private institutions throughout the state through the James and Esther King Biomedical Research Program (Section 381.922, Florida Statutes) and the Bankhead-Coley Cancer Research Program (Section 215.5602, Florida Statutes). In 2012-2013 this funding improved the health of Florida's families, expanded the research infrastructure of the state, and advanced efforts to bring external research funding to the state. Research grants are issued based on a competitive peer-review process. Awards are based on scientific merit, as determined by independent peer review involving experts located outside Florida who are free from all conflicts of interest. Researchers at any university or established research institute the state are eligible to apply for state funding. In 2012-2013 the Legislature appropriated \$14.75 million, which funded a total of 38 grants. The Legislature also appropriated funds directly to certain research institutes in the state. Shands Hospital at the University of Florida and Sylvester Cancer Center at the University of Miami each received \$7.5 million, and the H. Lee Moffitt Cancer Center received \$5 million. The Sanford-Burnham Medical Research Institute received \$3 million.

Annually the Department submits a fiscal-year progress report, including the following information as required by statute:

- a list of recipients of program grants or fellowships.
- a list of publications in peer reviewed journals involving research supported by grants or fellowships awarded under the program.
- the state ranking and total amount of biomedical research funding currently flowing into the state from the National Institutes of Health.
- new grants for biomedical research which were funded based on research supported by grants or fellowships awarded under the program.
- progress towards programmatic goals, particularly in the prevention, diagnosis, treatment, and cure of diseases related to tobacco use, including cancer, cardiovascular disease, stroke, and pulmonary disease.
- recommendations to further the mission of the programs.

### **William G. "Bill" Bankhead, Jr., and David Coley Cancer Research Program**

The Bankhead-Coley Cancer Research Program advances progress toward cures for cancer. Cancer is now the leading cause of death for Floridians, surpassing heart disease. Florida has the second highest cancer burden in the nation. In the three year period from 2009-2011 (the latest time period data are available), the total number of cancer deaths was 122,921. On average, 100,000 new cancers are diagnosed in Florida every year. Funding through the Bankhead-Coley program significantly improves cancer research and treatment in the state by

- attracting new research talent and grant-producing researchers;
- funding proposals that demonstrate the greatest ability to attract federal research grants;
- encouraging the development of bioinformatics to allow researchers to exchange information;
- facilitating technical collaboration, business development and support for intellectual property related to research; and
- aiding multi-disciplinary research through greater participation in clinical trials networks and reducing the impact of cancer on disparate groups.

### **The James and Esther King Biomedical Research Program**

The purpose of the James and Esther King Biomedical Research Program is to advance cures in tobacco-related diseases. Heart disease is the second leading cause of death in Florida. Diseases related to tobacco, such as emphysema, chronic obstructive pulmonary disease, and other chronic lower respiratory diseases, were the fourth leading cause of death in 2011. The King program funds research initiatives that seek new insights and innovative solutions in the prevention, diagnosis, treatment, and cure of Floridians afflicted by tobacco-related diseases including cardiovascular disease, stroke, lung disease and tobacco-related cancers.

### **Florida funds research that impacts the health of Floridians**

As of 2012-2013, over 3300 Floridians were enrolled in ongoing research studies funded by these two biomedical research programs. People throughout the state volunteered their time to improve the lives of all Floridians, and received health benefits from participation in the research. Benefits to the current participants included screening and genetic counseling for breast cancer; screening for colon cancer; improved diagnosis of cancer of the throat and esophagus; and improved management of the side effects of bladder cancer treatment. A study involving healthy weight and breast cancer provided dietary counseling. A small number of patients were enrolled in the initial phase of a clinical study testing new drugs to cure cancer, including an innovative cancer vaccine study. More than 800 participants were enrolled in studies of heart disease. These participants received direct benefits such as smoking cessation counseling, which included counseling and education for pregnant women who smoke. In 2012-2013, the Surgeon General charged the Biomedical Research Advisory Council with developing a research agenda with specific milestones and results to focus grant funding on health impacts and issues that matter most to Florida's families.

### **Florida funds research infrastructure**

Studies funded by these programs improved the research infrastructure of the state. Peer-reviewed research expanded the Florida Cancer Registry Data System, the largest cancer registry in the nation, to begin to create a nationally representative cancer research database.

State funding for the Florida Translational Research Program Collaborative Drug Discovery Initiative at the Sanford-Burnham Medical Research Institute supported researchers funded through the King and Bankhead-Coley programs working to discover new drugs to cure cancer and tobacco-related diseases.

**Florida funds research projects that help the state attract external research funding.**

Florida's biomedical research programs have the distinction of being recognized by the National Cancer Institute. When Florida's funding is awarded through the rigorous peer-review mechanisms in the biomedical research programs, researchers are able to cite those grants when applying for federal funding. The National Cancer Institute accepts Florida's grant programs as evidence when conducting peer review, which is particularly important for new researchers, who do not yet have a history of federal funding. However, even with this advantage, reductions in National Institutes of Health (NIH) funding resulted in lower state funding in 2012-2013. Florida's funding from the NIH declined by \$64 million compared with 2011-2012, and Florida's state ranking dropped from 13 to 14 in NIH funding. These numbers must be seen in the context of an overall drop in federal funding for research. NIH funding declined over \$377 million from its high in 2011, which impacts the ability of Florida researchers to obtain external funding. Since 2003 the budget of the NIH has grown minimally, with buying power shrinking by about 20 percent due to inflation. The outlook for 2013-2014 continues in this direction. Total NIH funding was reduced by 5%, or more than \$1.7 billion, in the 2013-2014 federal fiscal year. This is expected to result in approximately 700 fewer NIH grants.

**Biomedical Research Advisory Council**

The Biomedical Research Advisory Council (Section 215.5602, Florida Statutes) advises the State Surgeon General regarding the direction and scope of the biomedical research program. The responsibilities of the council include, but are not limited to:

- Providing advice on program priorities and emphases; providing advice on the overall program budget;
- Participating in periodic program evaluation;
- Assisting in the development of guidelines to ensure fairness, neutrality, and adherence to the principles of merit and quality in the conduct of the program;
- Assisting in the development of appropriate linkages to nonacademic entities, such as voluntary organizations, health care delivery institutions, industry, government agencies, and public officials;
- Developing criteria and standards for the award of research grants;
- Developing guidelines relating to solicitation, review, and award of research grants and fellowships, to ensure an impartial, high-quality peer review system; and
- Reviewing reports of peer review panels and making recommendations for research grants and fellowships.

### **Biomedical Research Advisory Council Membership**

Daniel Armstrong, Ph.D., Chair, Professor and Associate Chair, Pediatrics, Director, Mailman Center for Child Development, University of Miami Miller School of Medicine. Seat: American Cancer Society Representative.

Mark Brantly, M.D., Co-Chair, Chief, Division of Pulmonary and Critical Care Medicine University of Florida, College of Medicine. Seat: American Lung Association Representative.

Charles Wood, Ph.D., Professor and Chair, Department of Physiology and Functional Genomics, University of Florida College of Medicine. Seat: American Heart Association Representative.

Barbara Centeno, M.D., Director of Cytopathology and Anatomic Pathology Quality Assurance/Moffitt Cancer Center, Professor of Oncologic Sciences and Pathology and Cell Biology/University of South Florida. Seat: House.

Randal H. Henderson, M.D., MBA, Associate Medical Director, Proton Therapy Institute Professor of Radiation Oncology, University of Florida, Jacksonville. Seat: House.

Albert Latimer, B.B.A., Senior Vice President, External Affairs & Investor Relations Enterprise Florida, Inc. Seat: Governor.

Edith Perez, M.D., Deputy Director at Large, Mayo Clinic Cancer Center; Director, Breast Cancer Translational Genomics Program, Serene M. and Frances C. Durling Professor of Medicine, Mayo Clinic, Jacksonville. Seat: Senate.

Penny Ralston, Ph.D., Director, Dean Emeritus and Professor, Center on Better Health & Life for Underserved Populations, Institute of Science & Public Affairs, Florida State University. Seat: Senate.

Claes Wahlestedt, M.D., Ph.D., Professor and Vice Chair (Research), Dep. of Psychiatry and Behavioral Sciences, Associate Dean for Therapeutic Innovation, Director, Center for Therapeutic Innovation, Hussman Institute for Human Genomics, University of Miami Miller School of Medicine. Seat: Governor.

<b>Bankhead- Coley Cancer Research Program Fiscal Year 2012-2013</b>			
<b>Grant Recipients</b>	<b>Research projects</b>	<b>Institution</b>	<b>Award Amount</b>
Jianfeng Cai	Design, synthesis, and evaluation of gamma-AApeptide-based protein tyrosine phosphatase inhibitors as novel anticancer agents	University of South Florida	\$374,000.00
Alicja Copik	Generation of highly cytotoxic natural killer cells for cellular therapy of cancers using novel microparticle approach	University of Central Florida	\$374,000.00
John Copland	Stearoyl CoA as novel molecular target for treatment of kidney cancer	Mayo Clinic	\$100,000.00
William Dunn	Inhibiting a core autophagy protein to treat prostate cancer	University of Florida	\$116,875.00
Pearlie Epling-Burnette	Verification of TERT assay for MDS diagnosis	Moffitt Cancer Center	\$ 99,993.00
Dmitry Gabrilovich	Lipids and Myeloid Cell Function in Cancer	Moffitt Cancer Center	\$180,185.00
Scott Gilbert	Bladder Cancer Outcomes and Impact Study (BCOIS)	University of Florida	\$374,000.00
John Heine	Automated Quantitative Measures of Breast Density	Moffitt Cancer Center	\$187,000.00
Chen Ling	Treatment for human hepatocellular carcinoma based on genome- and capsid-optimized recombinant adeno-associated virus serotype 3 vectors	University of Florida	\$374,000.00
Hendrik Luesch	Development of scale-up synthetic method for apratoxin S4, a novel drug for the treatment of colorectal cancer	University of Florida	\$100,000.00
Enrique Mesri	Endothelial progenitor cells in viral oncogenesis of AIDS-Kaposi sarcoma	University of Miami	\$134,406.00
Priyamvada Rai	Implications of Cellular Senescence as a Treatment Response in Prostate Cancer	University of Miami	\$374,000.00
Edward Seto	Functions, Mechanisms of Action, and Regulations of SIRT1	Moffitt Cancer Center	\$187,000.00
Ravi Shridhar	Validation of a Radiation Response Signature in Borderline Resectable Pancreatic Cancer Patients Treated with Induction Chemotherapy followed by Stere	Moffitt Cancer Center	\$374,000.00

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Branko Stefanovic	Controlling Fibrosis to Prevent Hepatocellular Carcinoma	Florida State University	\$100,000.00
Weihong Tan	Development of molecular probes for biomedical applications	University of Florida	\$199,899.00
Tongyu Wikramanayake	Laser-accelerated Hair Regrowth after Chemotherapy-Induced Alopecia	University of Miami	\$374,000.00
James Wilson	FAST Probes: Reporters of Activation States in Cancer Relevant Signaling Pathways	University of Miami	\$362,789.00

<b>James and Esther King Biomedical Research Program Fiscal Year 2012-2013</b>			
<b>Grant Recipients</b>	<b>Research projects</b>	<b>Institution</b>	<b>Award Amount</b>
Dmitry Ivanov	The Role of Danger Signals in Retinal Ischemia	University of Miami	\$ 200,000.00
Hans Peter Larsson	Voltage Sensor Roles in the Physiology and Pathophysiology of a Heart K <sup>+</sup> Channel	University of Miami	\$ 179,493.00
Stephen Coombes	Cortical and Subcortical Brain Function in Chronic Stroke	University of Florida	\$ 384,205.00
Jia Fang	Functions of MPP8 in Tumor Suppressor Gene Silencing and Lung Cancer Progression	Moffitt Cancer Center	\$ 400,000.00
Brian Lally	Genomic Prediction Models of Lung Cancer Survival and Treatment Response	University of Miami	\$ 400,000.00
Lirong Peng	Regulations and functions of Tip60 and hMOF	Moffitt Cancer Center	\$ 400,000.00
Lina Shehadeh	Modulation of miR-30e in Nicotine-Enhanced Atherogenic and Osteogenic Pathways	University of Miami	\$ 400,000.00
Jose Silva	Involvement of hypothalamic non-protein coding RNAs in the metabolic response to prenatal nicotine exposure in offspring	University of Miami	\$ 392,327.00
Hoshang Unwalla	Restoring the Mucociliary clearance enhancing properties of inhaled beta-2-agonist bronchodilators in chronic bronchitis.	University of Miami	\$ 400,000.00
Gaofeng Wang	Determine smoking susceptibility loci in age-related macular degeneration.	University of Miami	\$ 400,000.00

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Sion Williams	High resolution mapping and quantitation of somatic mitochondrial DNA variants in heart failure.	University of Miami	\$ 389,964.00
Naohiro Terada	T3SS-Mediated Cardiomyocyte Engineering	University of Florida	\$ 172,500.00
Omaida Velazquez	Role of the Notch Signaling in Atherosclerosis & Stem Cell-Mediated Arterial Repair	University of Miami	\$ 200,000.00
Jie Wu	Protein Tyrosine Kinase-Phosphatase Interaction in Tumorigenesis	Moffitt Cancer Center	\$ 200,000.00
Danuta Szczesna-Cordary	Functional and Structural Consequences of FHC-linked RLC Mutations	University of Miami	\$ 200,000.00
Alexander Agoulnik	Vascular effects of relaxin receptor agonists	Florida International University	\$ 100,000.00
Teng Ma	Development of a Bioreactor Strategy for Scalable Expansion of Human Mesenchymal Stem Cell Aggregates for Heart Diseases	Florida State University	\$ 100,000.00
Miroslav Gantar	Enhancing the Activity of Anticancer Drugs by a Natural Product - Phycocyanin	Florida International University	\$ 99,765.00
Hendrik Luesch	Development of a scalable synthetic method for lyngbyastatin 7 as a new treatment of pulmonary diseases	University of Florida	\$ 100,000.00
Robert Henning	Umbilical Cord Cells in Hydrogels Mend Smokers Broken Hearts/Umbilical Cord Progenitor Cells in the Treatment of Acute Myocardial Infarction	Haley VA Hospital	\$ 100,000.00

<b>Total National Institutes of Health Funding and State Ranking 2012-2013</b>		
<b>Federal Fiscal Year</b>	<b>Funding</b>	<b>State Rank</b>
2013	\$429,327,288	<b>14</b>
2012	\$502,112,696	<b>12</b>
2011	\$492,555,720	<b>13</b>



**Total Follow-on Funding Awards Reported by Grantees: \$5,832,709.00**

1. Curbow, Barbara, BC, (2012) *Mucosal Inflammation and Digestive Cancer Correlation Science Biorepository*, National Institute of Health and National and National Center for Advancing Translational Sciences, \$20,000
2. Guildiken, Rasim, BC, (2013) *SBIR Phase I: Acoustic Emission on a Chip (AECHIP)*, Waves in Solids LLC through NSF, \$99,892
3. Ning, Shunbin, BC, (2012) *Targeting an oncogenic miRNA by IRFs promotes survival of tumor virus-transformed cells*, American Society of Hematology, \$150,000
4. Wangpaichitr, Medhi, King, (2013) *Metabolic Reprogramming: A New Paradigm for Targeting Cisplatin Resistant Cells*, Dept. of Veterans Affairs, \$800,000
5. Borlongan, Cesar, King, (2013) *Reinforcing Repair Response to Traumatic Brain Injury*, Veterans Affairs, \$1,000,000
6. Cheng, Jin Q., King, (2012) *IKBKE/IKKE (epsilon) Kinase in Non-small Cell Lung Cancer*, National Institutes of Health and National Cancer Institute, \$1,762,000
7. Kojetin, Douglas, King (2012) *HIV Macromolecular Interactions and Impact on Viral Evolution of Drug Resistance*, National Institute of Health and National Institute of General Medical Sciences, \$1,782,000
8. Hazlehurst, Lori, BC, (2012) *Targeting CD44 in the bone marrow microenvironment of MM*, National Cancer Institute, \$218,817

Total \$5,832,709.00

**Publications in peer reviewed journals**

1. Researchers reported 77 new publications in peer-reviewed journals between July 1, 2012 and June 30, 2013 based on Florida's research funding from the King and Bankhead Coley research programs
2. Armishaw, C.J.; Banerjee, J.; Ganno, M.L.; Reilley, K.J.; Eans, S.; Hoot, M.R.; Gyanda, R.; Houghten, R.A.;
3. McLaughlin, J.P. Discovery of novel antinociceptive  $\alpha$ -conotoxin analogues from the direct in vivo screening of a synthetic mixture-based combinatorial library, *ACS Comb. Sci.*, 2013, 15, 153-161
4. Astudillo, L., Bernad S., Derrien V. Sebban P., Miksovska J. Conformational dynamics in human neuroglobin: effect of His64, Val68, and Cys120 on ligand migration. *Biochemistry*. 2012 Dec 18;51(50):9984-94
5. Banerjee, J.; Gyanda, R.; Chang, Y.-P.; Armishaw, C.J.\* The chemical synthesis of  $\alpha$ -conotoxins and structurally modified analogs with enhanced stability, *Methods Mol. Biol.*, 2013, 1081, 13-34
6. Boye SE, Boye SL, Lewin AS, Hauswirth WW. A comprehensive review of retinal gene therapy. *Mol Ther*. 2013 Mar;21(3):509-19. doi: 10.1038/mt.2012.280. Epub 2013 Jan 29. PubMed PMID: 23358189
7. Burris TP, Solt LA, Hughes TS, Lundasen T, Crumbley C, Wang Y, Kojetin DJ. Nuclear receptors and their selective pharmacologic modulators. *Pharmacol Rev* (2013) 65(2): 710-7
8. Cha JW, Park J, Sim T, Nam SJ, Kwon HC, Del Valle JR, Fenical W. Structure assignment of lucentamycin E and revision of the olefin geometries of the marine-derived lucentamycins. *J. Nat. Prod*. 2012;75:1648
9. Chen F, Chen GK, Stram DO, Millikan RC, Ambrosone CB, John EM, Bernstein L, Zheng W, Palmer JR, Hu JJ, et al., A genome-wide association study of breast cancer in women of African ancestry. *Hum Genet*. 2013;132:39-48. doi: 10.1007/s00439-012-1214-y. PubMed PMID: 22923054. Garcia-Closas M....., Hu JJ., et al., Genome-wide association studies identify four ER negative-specific breast cancer risk loci. *Nat Genet*. 2013;45:392-8. doi: 10.1038/ng.2561. PubMed PMID: 23535733
10. Damas O, Sussman DA, Jahann DA, Reznick R, Tamariz L, Deshpande AR, Abreu MT. Phenotypic Manifestations of Inflammatory Bowel Disease Differ between Hispanics and Non-

- Hispanic Whites: results of a large cohort study. *Am J Gastro*. Epub online early. December 18, 2012. 2013;108(2):231-9
11. Darst RP, Nabils NH, Pardo CE, Riva A and Kladd MP. (2012) DNA methyltransferase accessibility protocol for individual templates by deep sequencing. *Methods Enzymol*. 513:185-204. PMID: 22929770
  12. Deep vascular imaging in wounds by two-photon fluorescence microscopy. Yanez CO, Morales AR, Yue X, Urakami T, Komatsu M, Järvinen TA, Belfield KD. *PLoS One*. 2013 Jul 2;8(7):e67559. doi: 10.1371/journal.pone.0067559. Print2013.
  13. Deep vascular imaging in wounds by two-photon fluorescence microscopy. Yanez CO, Morales AR, Yue X, Urakami T, Komatsu M, Järvinen TA, Belfield KD. *PLoS One*. 2013 Jul 2;8(7):e67559. doi: 10.1371/journal.pone.0067559. Print 2013.
  14. Della-Morte (co-first author), D., Dong, C (co-first author)., Bartels, S., Cabral, D., Blanton, S.H., Ralph L. Sacco, R.L., Rundek, T., Association of the Sirtuin and Mitochondrial Uncoupling Protein Genes with Carotid Intima-Media Thickness. *Translational Research*, 160(5):389-90, 2012
  15. Döppler H, Bastea LI, Eiseler T, Storz P. Neuregulin mediates F-actin-driven cell migration through inhibition of Protein Kinase D1 via Rac1. *J Biol Chem* 2013; 288:455-465. PMID:PMC3537043
  16. Echeverria V, and Zeitlin R. Cotinine: a potential new therapeutic agent against Alzheimer's disease. *CNS Neuroscience & Therapeutic*. 18(7):517-23. 2012. PMID:22530628 2. Moran Echeverria V. Cotinine: Beyond that Expected, More than a Biomarker of Tobacco Consumption. *Front Pharmacol*. 3:173. 2012. PMID:23087643 3.
  17. Eiseler T, Koehler C, Nimmagadda SC, Jamali A, Funk N, Joodi G, Storz P, Seufferlein T. Protein Kinase D1 mediates anchorage-dependent and independent growth of tumor cells via the zinc-finger transcription factor Snail1. *J Biol Chem* 2012; 287:32367-32380. PMID:PMC3463335
  18. Eruslanov E, Stoffs T, Kim WJ, Daurkin I, Gilbert SM, Su L.M, Vieweg J, Daaka Y, Kusmartsev S. Expansion of inflammatory CCR8 myeloid cells in patients with renal and urothelial carcinomas. *Clinical Cancer Research*, 2013, 19(7):1670-80
  19. Fernandez CA, McClure LA, LeBlanc WG, Clarke TC, Fleming LE, Kirsner RS, Arheart L, Lee DJ. A Comparison of Florida Skin Cancer Screening Rates to the Different US Regions. *Southern Medical Journal*, 2012; 105(10):524-9
  20. Fernandez, J.W., Grizzell, J.A., Wecker, L. The role of estrogen receptor  $\beta$  and nicotinic cholinergic receptors in postpartum depression. *Progress in Neuropsychopharmacology & Biological Psychiatry*. Final version published online: 30-OCT-2012 (2013), pp. 199-206 DOI information: 10.1016/j.pnpbp.2012.10.002
  21. Greer YE, Fields AP, Brown AM and Rubin JS. Atypical protein kinase C is required for Wnt3a-dependent neurite outgrowth and binds to phosphorylated Dishevelled 2. *J Biol Chem*. 2013 Feb 8. [Epub ahead of print] PMID:23396968
  22. Greer YE, Fields AP, Brown AM, Rubin JS. Atypical Protein Kinase C $\gamma$  Is Required for Wnt3a-dependent Neurite Outgrowth and Binds to Phosphorylated Dishevelled 2. *J Biol Chem*. 2013 Mar 29;288(13):9438-46. doi: 10.1074/jbc.M112.448282. Epub 2013 Feb 8. PMID:23396968
  23. Guo J, Kim D, Gao J, Kurtyka C, Chen H, Yu C, Wu D, Mittal A, Beg A, Chellappan SP, Haura EB, Ceng JQ. IKBKE is induced by STAT3 and tobacco carcinogen and determines chemosensitivity in non-small cell lung cancer. *Oncogene*, 2012
  24. Hernandez MN, Sussman DA, Lee DJ, MacKinnon JA, Fleming LE. Trends in colorectal cancer among Hispanics by stage and subsite location: 1989-2006. Accepted, *Clinical and Translational Gastroenterology*, July 2012
  25. Jason E. Lang, Allen Dozor, Sankaran Krishnan, Edward Mougey, Janet T. Holbrook, Robert A. Wise, M.D, W. Gerald Teague, Christine Y. Wei, David Shade, and John J. Lima, PharmD. Second Hand Tobacco Smoke Exposure Among Children with Poorly Controlled Asthma. Received 24 September 2012; received in revised form 16 November 2012; accepted 16 November 2012. published online 14 January 2013, ([http://www.jaciinpractice.org/article/S2213-2198\(12\)00030-X/abstract](http://www.jaciinpractice.org/article/S2213-2198(12)00030-X/abstract)).
  26. Jung HM, Phillips BL, Patel RS, Cohen DM, Jakymiw A, Kong WW, Cheng JQ, Chan EK. Keratinization-associated miR-7 and miR-21 regulate tumor suppressor reversion-inducing-cysteine-rich protein with kazal motifs (RECK) in oral cancer. *J Biol Chem*. 2012 Jul 2.

27. Kang S, Louboutin JP, Datta P, Landel CP, Martinez D, Zervos AS, Strayer DS, Fernandes-Alnemri T, Alnemri ES. Loss of HtrA2/Omi activity in non-neuronal tissues of adult mice causes premature aging. (2013) *Cell Death Differ.* 20(2):259-69. Highlighted in editorial: A novel role for the mitochondrial HTRA2/OMI protease in aging. (2013) *Autophagy*: 420– 421
28. Kim YB, Doi K, Balasis M, DeBoulay C, Wang HG, Sebti SM, Guida W, Hu CA, Del Valle JR. Synthesis and evaluation of substituted hexahydronaphthalenes as novel inhibitors of the Mcl-1/BimBH3 interaction. *Bioorg. Med. Chem. Lett.* 2012;22:5961-3.
29. Kojetin DJ and Burris TP. Small Molecule Modulation of Nuclear Receptor Conformational Dynamics: Implications for Function and Drug Discovery. *Mol Pharmacol* (2012) 83(1): 1-8.
30. Koshenkov VP, Koru-Sengul T, Franceschi D, DiPasco PJ, Rodgers SE. The predictors of incidental gallbladder cancer in patients undergoing cholecystectomy for benign gallbladder disease. *Journal of Surgical Oncology.* 2013; 107(2): 118-23.
31. Lally BE, Hu JJ, Koniaris L. Reply to the influence of Hispanic ethnicity on nonsmall cell lung cancer histology and patient survival: an analysis of the survival, epidemiology, and end results database. *Cancer.* 2013 Mar 15;119(6):1287-8. doi: 10.1002/cncr.27797. Epub 2012 Oct 1.
32. M. Jo, and R. Guldiken, Dual Surface Acoustic Wave-based Active Mixing in a Microfluidic Channel, *Sensors and Actuators A*, vol 196, pp. 1-7, 2013
33. N. B. Crane, O. Onen, J. Carballo, Q. Ni, and R. Guldiken, Fluidic Assembly at the Microscale: Progress and Prospects, *Microfluidics and Nanofluidics*, vol 14, pp. 383-419, 2013
34. O. Onen, A. Ahmad, R. Guldiken, and N. Gallant\*, Surface Modification on Acoustic Wave Biosensors for Enhanced Specificity, *Sensors*, vol 12, pp. 12317-12328, 2012
35. M. Jo, and R. Guldiken, Active Density-based Separation using Standing Surface Acoustic Waves, *Sensors and Actuators A*, vol 187, pp. 22-28, 2012
36. Manipulation of mtDNA heteroplasmy in all striated muscles of newborn mice by AAV9-mediated delivery of a mitochondria-targeted restriction endonuclease. Bacman SR, Williams SL, Duan D, Moraes CT.
37. *Gene Therapy.* 2012 Nov;19(11):1101-6
38. Mansuy-Aubert V, Zhou QL, Xie X, Gong Z, Huang JY, et al. Imbalance between Neutrophil Elastase and its Inhibitor  $\alpha$ 1-antitrypsin in Obesity Alters Insulin Sensitivity, Inflammation, and Energy Expenditure. *Cell Metab.* 2013 Apr 2; 17(4): 534–548.
39. McClure LA, Fernandez CA, Clarke TC, Arheart KL, LeBlanc WG, Lee DJ. Risky drinking among the elderly: A comparison of Florida to the rest of the US. *Addictive Behaviors*; 2013, 38:1894-1897
40. McClure LA, Fernandez CA, Clarke TC, Arheart KL, LeBlanc WG, Lee DJ. Risky drinking among the elderly: A comparison of Florida to the rest of the US. *Addictive Behaviors*; 2013, 38:1894-1897
41. McCullough DJ, Stabley JN, Siemann DW, et al. Role of vascular dysfunction in prostate tumor perfusion during exercise. *FASEB J.* 2013 (26): 1136.15.
42. McLaughlin JR, Rosen B, Moody J, Pal T, Fan I, Shaw P, Risch HA, Sellers T, Sun P, Narod SA. Long-term Ovarian Cancer Survival Associated with Mutation in BRCA1 or BRCA2. *J Natl Cancer Inst.* 2012 Dec 20. PubMed PMID: 23257159
43. Miguez MJ Editorial. Current Issues in Cigarette Smoking Among Persons Living with HIV/AIDS: A Growing Public Health Problem Surrounded by Missing Information and Misconceptions *J AIDS Clinic Res* 2012, 3:e109 doi: 10.4172/2155-6113.1000e109
44. Minor EM, Court BL, Young JL, Wang G (2013) Ascorbate induces Ten-eleven translocation (Tet) methylcytosine dioxygenase-mediated generation of 5-hydroxymethylcytosine. *J Biol Chem* 2013 Apr 2
45. Miyake M, Goodison S, Rizwani W, Ross S, Bart Grossman H, Rosser CJ. Urinary BTA: indicator of bladder cancer or of hematuria. *World J Urol.* 2012 Aug 28;12(1):23
46. Ngok SP, Geyer R, Kourtidis A, Storz P, Anastasiadis, PZ. Phosphorylation-mediated 14-3-3 binding regulates the function of the RhoGEF Syx. *J Biol Chem* 2013; 288:6640-6650. PMID: PMC3585103
47. Niu, Youhong; Wu, Haifan; Huang, Rongfu; Qiao, Qiao; Costanza, Frankie; Wang, Xi-Sen; Hu, Yaogang; Amin, Mohamad Nassir; Nguyen, Anh-My; Zhang, James; Edward Haller; Shengqian Ma; Xiao Li and Jianfeng Cai Nanorods Formed from a New Class of Peptidomimetics *Macromolecules* (2012), 45(18), 7350-7355

48. Noel R, Shin Y, Shin Y, Banerjee S, Kojetin D, Lin L, Ruiz CH, Cameron MD, Burris TP and Kamenecka TM. Synthesis and SAR of tetrahydroisoquinolines as Rev-erb $\alpha$  agonists. *Bioorg Med Chem Lett* (2012) 22(11): 3739-42
49. Ohira M, Nishida S, et al. Comparative analysis of T-cell depletion method for clinical immunotherapy -anti-hepatitis C effects of natural killer cells via interferon-g production. *Transplant Proc.* 2013;45(5): 2045-2050
50. Pal T, Bonner D, Kim J, Monteiro ANA, Kessler L, Royer R, Narod SA, Vadaparampil ST. Early Onset Breast Cancer in a Registry-based Sample of African-American Women: BRCA Mutation Prevalence, and Other Personal and System-level Clinical Characteristics. *Breast J.* 2013 Jan 16. doi: 10.1111/tbj.12083. PubMed PMID: 23320992
51. Pal T, Cragun D, Lewis C, Doty A, Rodriguez M, Radford C, Thompson Z, Kim J, Vadaparampil, ST. A statewide survey of practitioners to assess knowledge and clinical practices regarding hereditary breast and ovarian cancer. *Genet Test Mol Biomarkers.* 2013 Feb 28. PubMed PMID: 23448386.
52. Pal T, Cragun D, Lewis C, Doty A, Rodriguez M, Radford C, Thompson Z, Kim J, Vadaparampil, ST. A statewide survey of practitioners to assess knowledge and clinical practices regarding hereditary breast and ovarian cancer. *Genet Test Mol Biomarkers.* 2013 Feb 28. PubMed PMID: 23448386.
53. Pal T, Lee JH, Doty A, Thompson Z, Monteiro ANA, Phelan C, Lancaster J, Metcalfe K, Sellers TA, Vadaparampil S, Narod SA. Modes of Delivery of Genetic Testing Services and the Uptake of Risk Management Options in BRCA1 and BRCA2 Carriers. *Clin Genet.* 2013 Feb 25. PubMed PMID: 23438721.
54. Pal T, Vadaparampil ST. The Value of Genetic Risk Assessments in Individuals at High-Risk for Inherited Breast Cancer. *Cancer Control.* 2012 Oct;19(4):255-66. PubMed PMID: 23037493.
55. Parker, D., Dietz, N., Webb Hooper, M., Byrne, M., Fernandez, C., Baker, E., Stevens, M., Lee, D., Kobetz, E. Developing and Urban Campus-Community Partnership: Lessons Learned in Infrastructure Development and Communication. *Progress in Community Health Partnerships: Research, Education and Action*, 6 (4), 2012
56. Parvatiyar, M., Landstrom, A., Figueiro-Freitas, C., Potter, J.D., Ackerman, M.J., Pinto, J.R. A mutation in TNNC1-encoded cardiac troponin C, TNNC1-A31S, predisposes to hypertrophic cardiomyopathy and ventricular fibrillation. *J. Biol. Chem.* 287(38): 31845-31855, 2012
57. Pedersen, S.W.; Armishaw, C.J.; Strømgaard, K. Synthesis of Peptides Using Tert-Butyloxycarbonyl (Boc) as the  $\alpha$ -Amino Protection Group, *Methods Mol. Biol.* 2013, 1047, 65-80
58. Picco M, Pasha S, Leighton J, Bruining D, Loftus E, Thomas C, Crook J, Krishna M, Wallace M. Indigo Carmine Staining Increases the Yield for Dysplasia in Ulcerative colitis among Inexperienced Endoscopists; Implemation of a Chromoendoscopy Program *The American Journal of Gastroenterology.* 2012 Oct; 107 (Suppl 1): S640-1.
59. Pitter, D.R.G.; Wigenius, J.; Brown, A.S.; baker, J.D.; Westerlund, F.; Wilson, J.N. Turn-On, Fluorescent Nuclear Stains with Live Cell Compatibility', *Org Lett*, 2013, 15, 1330
60. Rahman A, Pedroso FE, Sola JE, Lavu H, Winter JM, Yeo CJ, Koniaris LG. Is resection equivalent to transplantation for early cirrhotic patients with hepatocellular carcinoma? A meta-analysis. *Journal of Gastrointestinal Surgery.* 2012; 16:1897-1909.
61. Ranatunga S, Tang CA, Hu CA, Del Valle JR. Stereoselective synthesis of the revised Emp core residue of lucentamycins A-E. *J. Org. Chem.* 2012;77:9859.
62. Salvador, L. A.; Luesch, H. Discovery and Mechanism of Natural Products as Modulators of Histone Acetylation *Curr. Drug. Targets* 2012, 13, 1029–1047.
63. Salvador, L. A.; Luesch, H. HDAC inhibitors and other histone modifying natural products as emerging anticancer agents. In *Natural Products and Cancer Drug Discovery.* Koehn, F. E., Ed.; Springer: New York, 2013; pp. 59–95.
64. Saykally, Jessica N.\*, Lital Rachmany, Haris Hatic, Anat Shaer, Vardit Rubovitch, Chaim G. Pick, and Bruce A. Citron. (2012) The Nrf2 Activator, tert-Butylhydroquinone (tBHQ). Improves Cognitive Performance in
65. Mice after Mild Traumatic Brain Injury. *Neuroscience* 223 pg 305-314. \*Please note that Saykally is a maiden name for Jessica Chang

66. Sherman R, Henry K, Lee DJ. Addressing Colorectal Cancer Disparities: The Identification of Geographic Targets for Screening Interventions in Miami-Dade County, Florida. Proc. of the 20th ACM SIGSPATIAL Int. Conference On Advances in Geographic Information Systems, HEALTHGIS, pages 186-193, 2012. Published, 08/01/2012
67. Shin Y, Noel R, Banerjee S, Kojetin D, Song X, He Y, Lin L, Cameron MD, Burris TP and Kamenecka TM. Small molecule tertiary amines as agonists of the nuclear hormone receptor Rev-erba. *Bioorg Med Chem Lett* (2012) 22(13): 4413-7.
68. Siddiq A, Couch FJ, Chen GK, Lindström S, Eccles D, Millikan RC, Michailidou K, Stram DO, Beckmann L, Rhie SK, Ambrosone CB, Aittomäki K, Amiano P, Apicella C; Australian Breast Cancer Tissue Bank Investigators, Baglietto L, Bandera EV, Beckmann MW, Berg CD, Bernstein L, Blomqvist C, Brauch H, Brinton L, Bui QM, Buring JE, Buys SS, Campa D, Carpenter JE, Chasman DI, Chang-Claude J, Chen C, Clavel-Chapelon F, Cox A, Cross SS, Czene K, Deming SL, Diasio RB, Diver WR, Dunning AM, Durcan L, Ekici AB, Fasching PA; Familial Breast Cancer Study, Feigelson HS, Fejerman L, Figueroa JD, Fletcher O, Flesch-Janys D, Gaudet MM; GENICA Consortium, Gerty SM, Rodriguez-Gil JL, Giles GG, van Gils CH, Godwin AK, Graham N, Greco D, Hall P, Hankinson SE, Hartmann A, Hein R, Heinz J, Hoover RN, Hopper JL, Hu JJ, et al. A meta-analysis of genome-wide association studies of breast cancer identifies two novel susceptibility loci at 6q14 and 20q11. *Hum Mol Genet.* 2012 Dec 15;21(24):5373-84. doi: 10.1093/hmg/ddc381. PubMed PMID: 22976474; PubMed Central PMCID: PMC3510753.
69. Small molecule fluorophore and copolymer RGD peptide conjugates for ex vivo two-photon fluorescence tumor vasculature imaging. Morales AR, Yanez CO, Zhang Y, Wang X, Biswas S, Urakami T, Komatsu M, Belfield KD.
70. *Biomaterials.* 2012 Nov;33(33):8477-85. doi: 10.1016/j.biomaterials.2012.06.082. Epub 2012 Aug 30.
71. Small molecule fluorophore and copolymer RGD peptide conjugates for ex vivo two-photon fluorescence tumor vasculature imaging. Morales AR, Yanez CO, Zhang Y, Wang X, Biswas S, Urakami T, Komatsu M, Belfield KD.
72. *Biomaterials.* 2012 Nov;33(33):8477-85. doi: 10.1016/j.biomaterials.2012.06.082. Epub 2012 Aug 30.
73. Solt LA, Wang Y, Banerjee S, Hughes T, Kojetin DJ, Lundasen T, Shin Y, Liu J, Cameron MD, Noel R, Yoo S-H, Takahashi JS, Butler A, Kamenecka TM and Burris TP. Regulation of Circadian Behavior and Metabolism by Synthetic REV-ERB Agonists. *Nature* (2012) 485(7396): 62-8.
74. Song C, Chen GK, Millikan RC, Ambrosone CB, John EM, Bernstein L, Zheng W, Hu JJ, et al., A Genome-Wide Scan for Breast Cancer Risk Haplotypes among African American Women. *PLoS One.* 2013;8(2):e57298. doi: 10.1371/journal.pone.0057298. PubMed PMID: 23468962; PubMed Central PMCID: PMC3585353.
75. Stallings-Mann ML, Waldmann J, Zhang Y, Miller E, Gauthier ML, Visscher DW, Downey GP, Radisky ES, Fields AP, Radisky DC. Matrix metalloproteinase induction of Rac1b, a key effector of lung cancer progression. *Sci Transl Med.* 2012 Jul 11;4(142):142ra95. doi: 10.1126/scitranslmed.3004062. PMID: 22786680
76. Stoyanova R., Huang K., Sandler K., Cho H., Carlin S., Zanzonico P., Koutcher J., Ackerstaff E., Mapping Tumor Hypoxia In Vivo using Dynamic Contrast Enhanced MRI (DCE-MRI), *Translational Oncology*, 2012, 5(6):437-47
77. Sutsko RP, Young KC, Ribeiro A, et al. Long-term reparative effects of mesenchymal stem cell therapy following neonatal hyperoxia-induced lung injury. *Pediatr Res* 2013;73:46-53
78. Ucar, D.A., Kurenova, E., Garrett TJ, Cance WG, Nyberg C, Cox A, Massoll N, Ostrov DA, Lawrence N, Sebti SM, Zajac-Kaye M, Hochwald SN. Disruption of the protein interaction between FAK and IGF-1R inhibits melanoma tumor growth *Cell Cycle*, 11, 3250-3259, 2012  
Deniz A. Ucar, Andrew T Magis, Nicholas Lawrence, Said Sebti, Elena Kurenova, Maria Zajac-Kaye, and Steven N. Hochwald. Inhibiting the interaction of cMET and IGF-1R with FAK effectively reduces growth of pancreatic cancer cells in vitro and in vivo. *Anticancer Agents in Medicinal Chemistry* Published on line Dec 14, 2012, v13, 595-602, 2013
79. Urquidi V, Goodison S, Chang M, Dai Y, Rosser CJ. Diagnostic Potential of Urinary a1-Antitrypsin and Apolipoprotein E in the Detection of Bladder Cancer. *Jurol.* 2012 Oct 19.

80. V. Jeso, S. Iqbal, P. Hernandez, M. D. Cameron, P. V. LoGrasso, G. C. Micalizio Synthesis of Benzoquinone Ansamycin-Inspired Macrocyclic Lactams from Shikimic Acid *Angew. Chem. Int. Ed.* 2013, 52, accepted.
81. Vasmatazis G, Johnson SH, Knudson RA, Ketterling RP, Braggio E, Fonseca R, Viswanatha DS, Grebe SK, Frederick LA, Eckloff BW, Thompson EA, Kadin ME, Milosevic D, Porcher JC, Asmann YW, Smith DI, Kovtun IV, Ansell SM, Dogan A, Feldmann AL. Genome-wide analysis reveals recurrent structural abnormalities of TP63 and other p53-related genes in peripheral T-cell lymphomas. *Blood*, 2012 Aug 1.
82. Wang L, Ning S. IRF4 is activated through c-Src-mediated tyrosine phosphorylation in virus-transformed cells \*. *Journal of Virology*.2013. 87(17).9672-9679.
83. Wang Y, Solt LA, Kojeitn DJ and Burris TP. Regulation of p53 Stability and Apoptosis by a ROR Agonist. *PLoS One* (2012) 7(4): e34921.
84. Yue, X.; Yanez, C. O.; Yao, S.; Belfield, K. D. *Journal of the American Chemical Society* 2013, 135, 2112-2115
85. Yuhui Wen,2012: The role of autophagy in Nmnat-mediated protection against hypoxia-induced dendrite degeneration 2012 Drosophila Research Conference, Washington, DC
86. Zhibin Wang, Peipei Zhang, Brett Kirkland, Yingru Liu, Jingjiao Guan, Microcontact printing of polyelectrolytes on PEG using an unmodified PDMS stamp for micropatterning nanoparticles, DNA, proteins and cells, *Soft Matter* (2012) 8: 7630-7637