

The University of Mississippi
Interoffice Memorandum
SCHOOL OF PHARMACY
OFFICE OF THE DEAN
University, MS 38677

Phone: (662) 915-7828 FAX: (662) 915-5704

TO: All School of Pharmacy and USDA Personnel

FROM: Charles D. Hufford, Associate Dean for Research and Graduate Programs

DATE: August 24, 2012

SUBJECT: Research News

The following **GRANTS/CONTRACTS** have recently been awarded:

1. **Dr. Allison Bell** (P.I.-Pharmacy Practice) and **Dr. Kim Adcock** (Co-P.I.-Pharmacy Practice). Instructional Innovation Award: Increasing Interprofessional Interactions Among UMMC Students (University of Mississippi Medical Center), \$9,800, June 15, 2012-June 14, 2013.
2. **Dr. Sandra Bentley** (P.I.-Pharmacy Practice). Operation Immunization (The University of Southern Mississippi/Corporation for National and Community Service), \$2,250, September 1, 2011-August 31, 2012.
3. **Dr. Alice Clark** (P.I.-NCNPR), and **Dr. Ameeta Agarwal** (Co-P.I.-NCNPR). New Drugs for Opportunistic Infections-FY 12-13 (National Institute of Allergy and Infectious Diseases), \$392,035, July 1, 2012-June 30, 2013.
4. **Dr. Ashley Ellis** (P.I.-Pharmacy Practice). NACDS Foundation Faculty Scholars Program (National Association of Chain Drug Stores Foundation), \$1,000, August 1, 2012-July 31, 2013.
5. **Dr. Mahmoud ElSohly** (P.I.-NCNPR), and **Dr. Ikhlas Khan** (Co-P.I.-NCNPR). Production, Analysis and Distribution of Cannabis, Marijuana Cigarettes and Related Materials-2011 DEA Option-Modification No. 04 (National Institute on Drug Abuse), \$42,000, August 8, 2011-August 7, 2012.
6. **Dr. Mahmoud ElSohly** (P.I.-NCNPR), and **Dr. Ikhlas Khan** (Co-P.I.-NCNPR). Production, Analysis and Distribution of Cannabis, Marijuana Cigarettes and Related Materials-Modification No. 05 (National Institute on Drug Abuse), \$846,882, March 16, 2012-March 15, 2013.
7. **Dr. Mahmoud ElSohly** (P.I.-NCNPR), and **Dr. Ikhlas Khan** (Co-P.I.-NCNPR). Production, Analysis and Distribution of Cannabis, Marijuana Cigarettes and Related Materials-2012 DEA Option-Modification No. 07 (National Institute on Drug Abuse), \$19,860, August 8, 2012-August 7, 2013.
8. **Dr. Daneel Ferreira** (P.I.-Pharmacognosy). Human Urinary Metabolites Produced as a Result of Cranberry Juice (Ocean Spray Cranberries, Inc.), \$60,000, October 1, 2011-September 30, 2012.
9. **Dr. Deborah Gochfeld** (P.I.-NCNPR). EAGER: Developing a Model for Transmission of an Infectious Disease of Marine Sponges (National Science Foundation), \$299,997, April 1, 2012-March 31, 2014.

10. **Dr. Melissa Jacob** (P.I.-NCNPR). Development of New Agents Against Cryptococcal Infections FY 2011-12 (Florida Agricultural and Mechanical University/National Institutes of Health), \$13,660, June 1, 2011-May 31, 2012.
11. **Dr. Seongbong Jo** (P.I.-Pharmaceutics), and **Dr. Robert Doerksen** (Co-PI-Medicinal Chemistry). Computational Modeling-Aided Design, Synthesis and Evaluation of Redox-Sensitive Polymer Nanoparticles for Cancer Targeted Drug Delivery (Mississippi State University/National Science Foundation/Experimental Program to Stimulate Competitive Research), \$54,505, September 1, 2011-August 31, 2012.
12. **Dr. Ikhlas Khan** (P.I.- NCNPR) and **Dr. Troy Smillie** (Co-P.I.-NCNPR). Botanical Estrogens: Mechanisms, Dose and Target Tissues-Amendment 1 (University of Illinois/National Institutes of Health), \$197,740, September 1, 2011-August 31, 2012.
13. **Dr. Ikhlas Khan** (P.I.-NCNPR), and **Dr. Larry Walker** (Co-P.I.-NCNPR). Discovery and Development of Natural Product-Based Insect Management Compounds for Medical, Veterinary and Urban Concern (United States Department of Agriculture/Agricultural Research Service), \$450,850, July 1, 2011-June 30, 2012.
14. **Dr. Ikhlas Khan** (P.I.-NCNPR), and **Dr. Larry Walker** (Co-P.I.-NCNPR). Discovery and Development of Natural Product-Based Insect Management Compounds for Medical, Veterinary and Urban Concern-Amendment 1 (United States Department of Agriculture/Agricultural Research Service), \$315,288, July 1, 2011-June 30, 2012.
15. **Dr. Ikhlas Khan** (P.I.- NCNPR) and **Dr. Larry Walker** (Co-P.I.-NCNPR). Science Based Authentication of Dietary Supplements FY11-12 (Food and Drug Administration), \$2,093,000, September 15, 2011-August 31, 2012.
16. **Dr. Ikhlas Khan** (P.I.- NCNPR) and **Dr. Larry Walker** (Co-P.I.-NCNPR). Science Based Authentication of Dietary Supplements FY12-13 (Food and Drug Administration), \$2,308,000, September 1, 2012-August 31, 2013.
17. **Dr. Rahul Khanna** (P.I.-Pharmacy Administration). Relationship Between Health Utility and Burden Among Caregivers of Autistic Children (American Association of Colleges of Pharmacy), \$9,100, January 17, 2012-January 16, 2013.
18. **Dr. Xing-Cong Li** (P.I.- NCNPR) and **Dr. Melissa Jacob** (Co-P.I.-NCNPR). Random Shear Shuttle BAC Libraries for Antimicrobial Discovery from Soil Metagenomes (SBIR Phase II) - Year 1 (Lucigen Corporation/National Institutes of Health), \$200,000, March 1, 2012-February 28, 2013.
19. **Dr. Christopher McCurdy** (P.I.-Medicinal Chemistry). Novel Pharmacologic Interventions for Drugs of Abuse-Year 5 (National Institutes of Health/National Institute on Drug Abuse), \$24,192, April 1, 2011-March 31, 2012.
20. **Dr. Christopher McCurdy** (P.I.-Medicinal Chemistry). Selective Sigma Receptor Ligands for Depression (The University of Mississippi Medical Center/National Institutes of Health/National Center for Research Resources), \$7,207, July 1, 2011-June 30, 2012.
21. **Dr. S. Narasimha Murthy** (P.I.-Pharmaceutics). A Novel Method to Treat Chronic Pain (National Institutes of Health/National Institute of Neurological Disorders and Stroke), \$168,236, February 1, 2012-January 31, 2013.
22. **Dr. Dale Nagle** (P.I.-Pharmacognosy), and **Dr. Yu-Dong Zhou** (Co-P.I.-Pharmacognosy). Anticancer Drug Discovery that Targets Tumor Hypoxia-Year 7 Revised (National Institutes of Health), \$18,916, June 1, 2011-May 31, 2012.
23. **Dr. Dale Nagle** (P.I.-Pharmacognosy), and **Dr. Yu-Dong Zhou** (Co-P.I.-Pharmacognosy). Anticancer Drug Discovery that Targets Tumor Hypoxia-Year 8 (National Institutes of Health), \$262,130, June 1, 2012-May 31, 2013.

24. **Dr. David Pasco** (P.I.- NCNPR), **Dr. Colin Jackson** (Co-P.I.-Biology), **Dr. Nirmal Pugh** (Co-P.I.-NCNPR), and **Dr. Rita Moraes** (Co-P.I.-NCNPR). Immune Enhancing Echinacea Bacterial Endophytes (National Institutes of Health), \$365,132, April 1, 2012-March 31, 2013.
25. **Dr. Michael Repka** (P.I.-Pharmaceutics) and **Dr. Soumyajit Majumdar** (Co-P.I.-Pharmaceutics). Properties of HME Extruded Films Containing Kollidon VA-64 and New Polymer, Soluplus - Year 3 (BASF SE), \$38,679, January 1, 2011-December 31, 2012.
26. **Dr. Michael Repka** (P.I.-Pharmaceutics) and **Dr. Soumyajit Majumdar** (Co-P.I.-Pharmaceutics). Pii Center for Pharmaceutical Technology (University of Mississippi Research Foundation), \$50,000, May 1, 2012-April 30, 2013.
27. **Dr. Michael Repka** (P.I.-Pharmaceutics) and **Dr. Soumyajit Majumdar** (Co-P.I.-Pharmaceutics). Fundamentals Studies in the Application of Ashland Aqualon Polymers for Hot-Melt Extrusion for the Oral Delivery of Soluble and Insoluble Drugs from Tablets, Capsules and Oral Film Dosage Forms-Year 1 (Hercules Inc.), \$80,000, July 1, 2012-March 31, 2013.
28. **Dr. John Rimoldi** (P.I.-Medicinal Chemistry). Synthesis of Carbon Monoxide Donors and Heme Oxygenase Inhibitors-Amendment 4 (University of Mississippi Medical Center/National Institutes of Health/National Heart, Lung and Blood Institute), \$27,096, September 1, 2011-July 31, 2012.
29. **Dr. John Rimoldi** (P.I.-Medicinal Chemistry). Synthesis of Carbon Monoxide Donors and Heme Oxygenase Inhibitors-Amendment 5 (University of Mississippi Medical Center/National Institutes of Health/National Heart, Lung and Blood Institute), \$28,421, September 1, 2012-May 31, 2013.
30. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice). University of Mississippi, School of Pharmacy and Baptist Memorial Hospital/North Mississippi Agreement FY11-12 (Baptist Memorial Hospital/North Mississippi), \$73,530, August 3, 2011-August 3, 2012.
31. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice), **Dr. Lauren Bloodworth** (Co-P.I.-Pharmacy Practice), and **Dr. Courtney Davis** (Co-P.I.-Pharmacy Practice). Project IMPACT: Diabetes (American Pharmacists Association Foundation), \$25,000, August 31, 2011-December 31, 2013.
32. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice), and **Dr. Lauren Bloodworth** (Co-P.I.-Pharmacy Practice). Pharmacy Cardiovascular Risk Reduction Project - Year 2, (Mississippi State Department of Health/Centers for Disease Control and Prevention), \$300,000, September 30, 2011-September 29, 2012.
33. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice). Community Pharmacy Residency Practice Site Agreement (Walgreens Co.), \$12,500, January 23, 2012-January 22, 2013.
34. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice). Together on Diabetes in the Mississippi Delta Region #2 (Mississippi Public Health Institute), \$3,450, May 21, 2012-July 31, 2012.
35. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice). Clinical Services Support (University of Mississippi Medical Center), \$6,000, January 1, 2012-December 31, 2012.
36. **Dr. Ziaeddin Shariat-Madar** (P.I.-Pharmacology). Development of a Clinical Prolylcarboxypeptidase Assay (U.S. Small Business Administration), \$41,951, January 1, 2012-July 1, 2012.
37. **Dr. Justin Sherman** (P.I.-Pharmacy Practice). A "Train-the-Trainers" Initiative to Implement Smoking Cessation Programs (The University of Southern Mississippi/Corporation for National and Community Service), \$5,000, September 1, 2011-August 31, 2012.
38. **Dr. Gregory Tschumper** (P.I.-Chemistry), **Dr. Amal Dass**, **Dr. Nathan Hammer**, **Dr. Keith Hollis**, **Dr. Randy Wadkins** (Co-P.I.'s-Chemistry and Biochemistry); **Dr. Yixin Chen** (Co-P.I.-Computer and Information Science); **Dr. Robert Doerksen** (Co-P.I.-Medicinal Chemistry); and **Dr. Maxine Harper** (Co-P.I.-Center for Educational Research and

- Evaluation). Modeling and Simulation of Complex Systems (Mississippi State University/National Science Foundation), \$735,689, September 1, 2011-August 31, 2012.
39. **Dr. Larry Walker** (P.I.-NCNPR). Discovery and Development of Natural Products for Pharmaceutical and Agrichemical Applications-Amendment No. 1 (United States Department of Agriculture/Agricultural Research Service), \$2,619,477, June 1, 2011-May 30, 2012.
 40. **Dr. Larry Walker** (P.I.-NCNPR). Discovery and Development of Natural Products for Pharmaceutical and Agrichemical Applications-Amendment No. 2 (United States Department of Agriculture/Agricultural Research Service), \$1,506,749, June 1, 2011-May 30, 2012.
 41. **Dr. Larry Walker** (P.I.-NCNPR). OBCR Bioassay Support (NOAA/NIUST), \$37,195, 2012-2013.
 42. **Dr. Donna West-Strum** (P.I.-Pharmacy Administration), **Dr. David McCaffrey** (Co-P.I.-Pharmacy Administration), **Dr. Erin Holmes** (Co-P.I.-Pharmacy Administration), **Dr. John Bentley** (Co-P.I.-Pharmacy Administration), and **Dr. Patrick Pace** (Co-P.I.-Pharmacy Administration). Measuring and Improving Primary Medication Non-adherence (National Association of Chain Drug Stores Foundation), \$278,958, July 19, 2011-July 31, 2013.
 43. **Dr. Kristine Willett** (P.I.-Pharmacology & Environmental Toxicology Research Program). Development of a Fish Model for Epigenetic and Multigenerational Contaminant Effect (National Institutes of Health/National Institute of Environmental Health Sciences), \$205,900, August 12, 2011-July 31, 2012.
 44. **Dr. Kristine Willett** (P.I.-Pharmacology & Environmental Toxicology Research Program). Development of a Fish Model for Epigenetic and Multigenerational Contaminant Effect-Year 2 (National Institutes of Health/National Institute of Environmental Health Sciences), \$178,750, August 1, 2012-July 31, 2013.
 45. **Dr. Kristine Willett** (P.I.-Pharmacology). Distribution, Bioaccumulation and Toxicity of Nanosilver Particles in Medaka (*Oryzias latipes*)-Year 3 (U.S. Army Engineering Research and Development Center), \$248,000, February 27, 2012-February 26, 2013.
 46. **Dr. Yi Yang** (P.I.-Pharmacy Administration). Assessment of Communications-Related Needs for Decision Makers (International Society for Pharmacoeconomics and Outcomes Research), \$7,237, June 1, 2012-August 31, 2012.
 47. **Dr. Jordan Zjawiony** (P.I.-Pharmacognosy). Diterpenes as Selective Kappa Opioid Receptor Agents (The University of North Carolina at Chapel Hill/National Institute on Drug Abuse), \$70,523, February 15, 2012-January 31, 2013.
 48. **Dr. Jordan Zjawiony** (P.I.-Pharmacognosy). Psychopharmacology of Plants and Their Metabolites Used as Marijuana Substitutes-Year 2 (National Institutes of Health), \$71,500, June 1, 2012-May 31, 2013.

The following **PUBLICATIONS** have appeared:

1. Gabriella Aviello, Francesca Borrelli, Francesca Guida, Barbara Romano, Kevin Lewellyn, Maria De Chiaro, Livio Luongo, Jordan K. Zjawiony, Sabatino Maione, Angelo A. Izzo, and Raffaele Capasso. "Ultrapotent effects of salvinorin A, a hallucinogenic compound from *Salvia divinorum*, on LPS-stimulated murine macrophages and its anti-inflammatory action *In Vivo*", *J Mol Med*, **89** (2011) 891-902.
2. Bharathi Avula, Yan-Hong Wang, Chidananda Swamy Rumalla, Zulfiqar Ali, Troy J. Smillie, and Ikhlas A. Khan. "Analytical methods for determination of magnoflorine and saponins from roots of *Caulophyllum thalictroides* (L.) Michx. Using UPLC, HPLC and HPTLC", *Journal of Pharmaceutical and Biomedical Analysis*, **56** (2011) 895-903.

3. Bharathi Avula, Yan-Hong Wang, Rita M. Moraes, and Ikhlas A. Khan. "Rapid analysis of lignans from leaves of *Podophyllum peltatum* L. samples using UPLC-UV-MS", *Biomed. Chromatogr*, **25** (2011) 1230-1236.
4. Sridhar Rao Ayinampudi, Yan-Hong Wang, Bharathi Avula, Troy J. Smillie, and Ikhlas A. Khan. "Quantitative Analysis of Oxyresveratrol in Different Plant Parts of *Morus* Species and Related Genera by HPTLC and HPLC", *Journal of Planar Chromatography*, **24** (2011) 125-129.
5. Joanna Bajsa, Zhiqiang Pan, and Stephen O. Duke. "Transcriptional responses to cantharidin, a protein phosphatase inhibitor, in *Arabidopsis thaliana* reveal the involvement of multiple signal transduction pathways", *Physiologia Plantarum*, **143** (2011) 188-205.
6. John Bentley. "Marketing Theory", *Pharmacy Management*, Third Edition, Edited by Shane P. Desselle, David P. Zgarrick, and Gregory L. Alston, (2012) 377-403.
7. Abhijeet Bhanegaonkar, Suresh Madhavan, Rahul Khanna, and Scot C. Remick. "Declining Mammography Screening in a State Medicaid Fee-for-Service Program: 1999-2008", *Journal of Women's Health*, DOI: 10.1089/jwh.2011.2748 (2012).
8. Robert V. Brown, Forest L. Danford, Vijay Gokhale, Laurence H. Hurley, and Tracy A. Brooks. "Demonstration That Drug-Targeted Downregulation of MYC in Non-Hodgkins Lymphoma is Directly Mediated Through the Promoter G-Quadruplex", The American Society for Biochemistry and Molecular Biology, DOI: 10.1074/jbc.M111.274720 (2011).
9. Walter G. Chambliss, Wesley A. Carroll, Daniel Kennedy, Donald Levine, Michael A. Moné, L. Douglas Ried, Marv Shepherd, and Mukund Yelvig. "Role of the pharmacist in preventing distribution of counterfeit medications", *Journal of the American Pharmacists Association*, **52** (2012) 195-199.
10. Suman Chandra, Hemant Lata, Ikhlas A. Khan, and Mahmoud A. ElSohly. "Photosynthetic response of *Cannabis sativa* L., an important medicinal plant, to elevated levels of CO₂", *Physiology and Molecular Biology of Plants*, **17** (2011) 291-295.
11. Suman Chandra, Hemant Lata, Ikhlas A. Khan, and Mahmoud A. ElSohly. "Temperature response of photosynthesis in different drug and fiber varieties of *Cannabis sativa* L.", *Physiology and Molecular Biology of Plants*, **17** (2011) 297-303.
12. John D. Cleary and Kishor M. Wasan. "Amphotericin B: A New Look at Cellular Binding", *The Open Antimicrobial Agents Journal*, **3** (2011) 30-36.
13. Brian L. Crabtree, Victor G. Dostrow, Cynthia J. Evans, Brian J. Cuffel, Jose Ma. J. Alvir, and Kafi N. Sanders. "Outcome Assessment of an Antipsychotic Drug Algorithm: Effects of the Mississippi State Hospital Algorithm Project", *Psychiatric Services*, **62** (2011) 963-965.
14. Franck E. Dayan, J'Lynn Howell, Jannie P. Marais, Daneel Ferreira, and Marja Koivunen. "Manuka Oil, A Natural Herbicide with Pre-emergence Activity", *Weed Science*, **59** (2011) 464-469.
15. S. O. Duke and F. E. Dayan. "Bioactivity of Herbicides", *Comprehensive Biotechnology*, **4** (2011) 23-35.
16. Daneel Ferreira and Christina M. Coleman. "Towards the Synthesis of Proanthocyanidins: Half a Century of Innovation", *Planta Med.*, **77** (2011) 1071-1085.
17. J. Fichna, M. Dickey, S. A. Hirota, D. Traboulsi, J. A. MacDonald, A. Janecka, P. L. Beck, J. K. Zjawiony, W. K. MacNaughton, and M. A. Storr. "Differential effects of salvinorin A on endotoxin-induced hypermotility and neurogenic ion transport in mouse ileum", *Neurogastroenterology & Motility*, **23** (2011) 582-590.
18. Jiangtao Gao, Francisco León, Mohamed M. Radwan, Olivia R. Dale, Afeef S. Husni, Susan P. Manly, Shari Lupien, Xiaoning Wang, Robert A. Hill, Frank M. Dugan, Horace G. Cutler, and Stephen J. Cutler. "Benzyl Derivatives with *In Vitro* Binding Affinity for Human Opioid

- Receptors and Cannabinoid Receptors from the Fungus *Eurotium repens*” *Journal of Natural Products*, **74** (2011) 1636-1639.
19. Jiangtao Gao and Mark T. Hamann. “Chemistry and Biology of Kahalalides”, *Chemical Reviews*, **111** (2011) 3208-3235.
 20. Adrienne M. Gilligan, Jaclyn Myers, James D. Nash, Jill E. Lavigne, Leticia R. Moczygamba, Kimberly S. Plake, Ana C. Quiñones-Boex, David Holdford, Donna West-Strum, and Terri L. Warholak. “Educating Pharmacy Students to Improve Quality (EPIQ) in Colleges and Schools of Pharmacy”, *American Journal of Pharmaceutical Education*, **76** (2012) Article 109.
 21. Yang-Qing He, Guo-Yi Ma, Jiang-nan Peng, Zhan-Ying Ma, and Mark T. Hamann. “Liver X receptor and peroxisome proliferator-activated receptor agonist from *Cornus alternifolia*”, *Biochimica et Biophysica Acta*, (2012) 1021-1026.
 22. Tushar Hingorani, Waseem Gul, Mahmoud ElSohly, Michael A. Repka, and Soumyajit Majumdar. “Effect of Ion Pairing on *In Vitro* Transcorneal Permeability of a Δ^9 -Tetrahydrocannabinol Prodrug: Potential in Glaucoma Therapy”, *Journal of Pharmaceutical Sciences*, DOI: 10.1002/jps.22791 (2011).
 23. Ketan Hippalgaonkar, Waseem Gul, Mahmoud A. ElSohly, Michael A. Repka, and Soumyajit Majumdar. “Enhanced Solubility, Stability, and Transcorneal Permeability of Delta-8-Tetrahydrocannabinol in the Presence of Cyclodextrins”, *AAPS PharmSciTech*, **12** (2011) 723-731.
 24. Ketan Hippalgaonkar, Soumyajit Majumdar, and Viral Kansara. “Injectable Lipid Emulsions—Advancements, Opportunities and Challenges”, *AAPS PharmSciTech*, **11** (2011) 1526-1540.
 25. Erin R. Holmes, and Shane P. Desselle. “The use of speech disfluency as an indicant of paradigm development in pharmacy’s academic subdisciplines”, *Research in Social & Administrative Pharmacy*, DOI: 10.1016/j.sapharm.2011.11.005 (2012).
 26. Erin R. Holmes and Leigh Ann Bynum, “Customer Service”, *Pharmacy Management*, Third Edition, Edited by Shane P. Desselle, David P. Zgarrick, and Gregory L. Alston, (2012) 219-237.
 27. Krutika S. Jariwala, Erin R. Holmes, Benjamin F. Banahan, and David J. McCaffrey. “Adoption of and experience with e-prescribing by primary care physicians”, *Research in Social & Administrative Pharmacy*, DOI: 10.1016/j.sapharm.2012.04.003 (2012).
 28. Rahul Khanna, S. Suresh Madhavan, Michael J. Smith, Cindy Tworek, Julie H. Patrick, and Barbara Becker-Cottrill. “Psychometric properties of the Caregiver Strain Questionnaire (CGSQ) among caregivers of children with autism”, *Autism*, DOI: 10.1177/1362361311406143 (2011).
 29. Rahul Khanna, and Krutika Jariwala. “Awareness and knowledge of autism among pharmacists”, *Research in Social and Administrative Pharmacy*, DOI: 10.1016/j.sapharm.2011.11.002 (2011).
 30. Rahul Khanna, Patrick F. Pace, Rohan Mahabaleshwarkar, Ram Sankar Basak, Manasi Datar, and Benjamin F. Banahan. “Medication Adherence Among Recipients with Chronic Diseases Enrolled in a State Medicaid Program”, *Population Health Management*, DOI: 10.1089/pop.2011.0069 (2012).
 31. R. Khanna, K. Jariwala, and D. West-Strum. “Use and cost of psychotropic drugs among recipients with autism in a state Medicaid fee-for-service programme”, DOI: 10.1111/j.1365-2788.2012.01563.x (2012).
 32. Sean R. King, David J. McCaffrey, and Alicia S. Bouldin. “Health literacy in the pharmacy setting: defining pharmacotherapy literacy”, *Pharmacy Practice* (2011) 213-220.

33. Anna J. Kochanowska-Karamyan and Mark T. Hamann. "Marine Indole Alkaloids: Potential New Drug Leads for the Control of Depression and Anxiety", *Chemical Reviews*, **110** (2010) 4489-4497.
34. Hemant Lata, Suman Chandra, Natascha Techen, Ikhlas A. Khan, and Mahmoud A. ElSohly. Molecular analysis of genetic fidelity in *Cannabis sativa* L. plants grown from synthetic (encapsulated) seeds following *in vitro* storage conditions", *Biotechnology Letters*, **33** (2011) 2503-2508.
35. Hemant Lata, Suman Chandra, Zlatko Mehmedic, Ikhlas A. Khan, and Mahmoud A. ElSohly. "In vitro germplasm conservation of high Δ^9 -tetrahydrocannabinol yielding elite clones of *Cannabis sativa* L. under slow growth conditions", *Acta Physiol Plant*, DOI: 10.1007/s11738-011-0874-x (2011).
36. Taotao Ling, Jing Xu, Ryan Smith, Abbas Ali, Charles L. Cantrell, and Emmanuel A. Theodorakis. "Synthesis of (-)-callicarpenal, a potent arthropod repellent", *Tetrahedron*, **67** (2011) 3023-3029.
37. Tasneem Lokhandwala, Donna West-Strum, Benjamin F. Banahan, John P. Bentley, and Yi Yang. "Do statins improve outcomes in patients with asthma on inhaled corticosteroid therapy? A retrospective cohort analysis", *BMJ Open*, DOI:10.1136/bmjopen-2012-001279 (2012).
38. Zhenyu Lu, Yuanqing Ding, Xing-Cong Li, Daignon R. Djigbenou, Brian T. Grimberg, Daneel Ferreira, Chris M. Ireland, and Ryan M. Van Wagoner. "3-Bromohomofascaplysin A, a fascaplysin analogue from a Fijian *Didemnum* sp. ascidian", *Bioorganic & Medicinal Chemistry*, **19** (2011) 6604-6607.
39. Prashanth Manda, Jamie K. Hargett, Siva Ram Kiran Vaka, Michael A. Repka, and S. Narasimha Murthy. "Delivery of cefotaxime to the brain via intranasal administration", *Drug Development and Industrial Pharmacy*, **37** (2011) 1306-1310.
40. Zankhana Master, Amit Chaudhary, Thomas R. Sutter, and Kristine L. Willett. "Effects of flavonoids on CYP1 expression in RL95-2 endometrial carcinoma cells", *Food Chemistry*, **133** (2012) 912-922.
41. Melissa Medina, Dana Hammer, Renee Rose, Steven Scott, Freddy M. Creekmore, Amy Pittenger, Robert Soltis, Alicia Bouldin, Lindsay Schwartz, and Peggy Piascik. "Demonstrating excellence in pharmacy teaching through scholarship", *Currents in Pharmacy Teaching and Learning*, **3** (2011) 255-259.
42. Rita M. Moraes, Hemant Lata, Joko Sumyanto, Ana M. S. Pereira, Bianca W. Bertoni, Vaishali C. Joshi, Nirmal D. Pugh, Ikhlas A. Khan, and David S. Pasco. "Characterization and pharmacological properties of *in vitro* propagated clones of *Echinacea tennesseensis* (Beadle) Small", *Plant Cell Tiss Organ Cult*, (2011) 309-315.
43. Anroop B. Nair, Siva Ram Kiran Vaka, Sumit Gupta, Michael A. Repka, and S. Narasimha Murthy. "In vitro and in vivo evaluation of a hydrogel-based prototype transdermal patch system of alfuzosin hydrochloride", *Pharmaceutical Development and Technology*, DOI: 10.3109/10837450.2010.522585 (2010).
44. Anroop B. Nair, Siva Ram Kiran Vaka, and S. Narasimha Murthy. "Transungual delivery of terbinafine by iontophoresis in onychomycotic nails", *Drug Development and Industrial Pharmacy*, **37** (2011) 1253-1258.
45. N. P. Dhammika Nanayakkara, and Kevin K. Schrader. "Evaluation of free radical-generating compounds for toxicity towards the cyanobacterium *Planktothrix perornata*, which causes musty off-flavour in pond-raised channel catfish (*Ictalurus punctatus*)", *Aquaculture Research*, **42** (2011) 1895-1898.

46. Tarannum Naz, Ashik Mosaddik, Motiur Rahman, Ilias Muhammad, Ekramul Haque, and Somi Kim Cho. "Antimicrobial, antileishmanial and cytotoxic compounds from *Piper chaba*", *Natural Product Research*, DOI: 10.1080/14786419.2010.535166 (2011).
47. Peggy Piascik, Alicia Bouldin, Lindsay Schwartz, Amy Pittenger, Melissa Medina, Renee Rose, Robert Soltis, Steven Scott, Freddy M. Creekmore, and Dana Hammer. "Rewarding excellence in pharmacy teaching", *Currents in Pharmacy Teaching and Learning*, **3** (2011) 249-254.
48. Peggy Piascik, Amy Pittenger, Robert Soltis, Lindsay Schwartz, Melissa Medina, Alicia Bouldin, Renee Rose, Steven Scott, Freddy M. Creekmore, and Dana Hammer. "An evidence basis for assessing excellence in pharmacy teaching", *Currents in Pharmacy Teaching and Learning*, **3** (2011) 238-248.
49. Aziz A. Rahman, Volodymyr Samoylenko, Surendra K. Jain, Babu L. Tekwani, Shabana I. Khan, Melissa R. Jacob, Jacob O. Midiwo, John P. Hester, Larry A. Walker, and Ilias Muhammad. "Antiparasitic and Antimicrobial Isoflavanquinones from *Abrus schimperi*", *Natural Product Communications*, **6** (2011) 1645-1650.
50. Yulin Ren, Chunhua Yuan, Hee-byung Chai, Yuanqing Ding, Xing-Cong Li, Daneel Ferreira, and A. Douglas Kinghorn. "Absolute Configuration of (-)-Gambogic Acid, an Antitumor Agent", *Journal of Natural Products*, **74** (2011) 460-463.
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TECHNOLOGY TRANSFER transactions:

(In the interest of protecting confidential information, the names and titles associated with School of Pharmacy invention disclosures and patent applications will no longer be published until after a patent has issued.)

Research Disclosures Filed July 1, 2011 to June 30, 2012: 5

U. S. Patent Applications Pending: 19

Recent U. S. Patents Granted: 1

UM 1971 Pterostilbene as a New Agonist for the Peroxisome Proliferator-Activated Alpha Isoform

US Patent number 8,133,917, issued 3/13/2012

Inventor: Dennis Feller et al

The following **SPECIAL ANNOUNCEMENTS** are also listed:

- Christina Coleman (Pharmacognosy) and Gang Fu (Medicinal Chemistry) were honored with Graduate Achievement Awards for 2012 during School of Pharmacy Commencement activities in May.

Please continue to send me important research and graduate information so that I might share it with your faculty colleagues.

cc: Ms. Euphiazene Gray, Office of Research