

The University of Mississippi

Interoffice Memorandum
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TO: All School of Pharmacy and USDA Personnel

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

DATE: July 26, 2010

SUBJECT: Research News

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

1. **Dr. Benjamin Banahan** (P.I.-CPMM), **Dr. Yi Yang** (Co-P.I.-Pharmacy Administration), **Dr. John Bentley** (Co-P.I.-Pharmacy Administration), and **Dr. Patrick Pace** (Co-P.I.-CPMM). Using Medicare/Medicaid Claims Data to Support Medication Outcomes and Pharmacovigilance Research (Department of Health and Human Services [DHHS]/Centers for Medicare & Medicaid Services), \$500,000, June 1, 2010-May 31, 2011.
2. **Dr. Alice Clark** (P.I.-Pharmacognosy), and **Dr. Ameeta Agarwal** (Co-P.I.-NCNPR). New Drugs for Opportunistic Infections-FY10-11 (National Institute of Allergy and Infectious Diseases [NIAID]), \$388,221, July 1, 2010-June 30, 2011.
3. **Dr. Alice Clark** (P.I.-Pharmacognosy), and **Dr. Xing-Cong Li** (Co-P.I.-NCNPR). New Drugs for Opportunistic Infections-Diversity Supplement-FY10-11 (NIAID), \$46,910, July 1, 2010-June 30, 2011.
4. **Dr. John Cleary** (P.I.-Pharmacy Practice), and **Dr. Kayla Stover** (Co-P.I.-Pharmacy Practice). Cardiac Toxicity of Echinocandin Antifungals, \$73,397, May 23, 2010-May 22, 2012.
5. **Dr. Robert Doerksen** (P.I.-Medicinal Chemistry). Rational Design of Novel Natural Product-Derived Cannabinoid Ligands (Center of Research Excellence in Natural Products Neuroscience [CORE-NPN]), \$158,594, September 1, 2009-June 30, 2010.
6. Dr. Gregory Easson (P.I.-Geology and Geological Engineering), and **Dr. Marc Slattery** (Co-P.I.-Pharmacognosy). Seagrass Health Modeling and Prediction with National Aeronautics and Space Administration Science Data (NASA), \$295,608, December 1, 2009-November 30, 2010.
7. **Dr. Abir El-Alfy** (P.I.-Pharmacology). Mechanism of Antidepressant Action of Cannabinoids (CORE-NPN), \$161,360, September 1, 2009-June 30, 2010.
8. **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-FY10-11 (National Institute on Drug Abuse/National Institutes of Health [NIDA/NIH]), \$500,000, March 16, 2010-March 15, 2011.
9. **Dr. Daneel Ferreira** (P.I. - Pharmacognosy). Oligomeric/Polymeric Procyanidins: Development of Synthetic and Analytical Protocols (Ocean Spray Cranberries, Inc.), \$175,000, December 1, 2009-February 28, 2012.

10. **Dr. Deborah Gochfeld** (P.I.-NCNPR). Collaborative Research: Host-Environment-Pathogen Interactions in a Model Coral Disease System (National Science Foundation [NSF]), \$198,455, June 1, 2010-May 31, 2013.
11. **Dr. Mark Hamann** (P.I.-Pharmacognosy). The Isolation and Characterization of Antimalarial Agents with Marine Micro-Organisms-Year 5 (Medicines for Malaria Venture), \$15,000, January 1, 2006-December 31, 2011.
12. **Dr. Mark Hamann** (P.I.-Pharmacognosy). Vibrio Biotechnology: Anticancer Marine Natural Products from GOM Bacteria (National Oceanic and Atmospheric Administration [NOAA]/ National Institute for Undersea Science and Technology [NIUST]), \$96,172, October 1, 2009-September 30, 2010.
13. **Dr. Mark Hamann** (P.I.-Pharmacognosy). Food Additives from Marine Bacteria (Kraft Foods, Inc.), \$100,000, September 1, 2009-August 30, 2010.
14. Dr. Raymond Highsmith (P.I.-NIUST), **Dr. Marc Slattery** (Co-P.I.-Pharmacognosy), and Dr. Carol Lutken (Co-P.I.-MS Mineral Resources Institute). NIUST Integrated Research and Technology Development: OAR Charter Fund Request (U.S. Dept. of Commerce/NOAA), \$173,200, October 1, 2010-September 30, 2011.
15. **Dr. Melissa Jacob** (P.I.-NCNPR), and **Dr. Khalid Ashfaq** (Co-P.I.-NCNPR). Development of New Agents Against Cryptococcal Infections-Year 2 (Florida Agricultural and Mechanical University/NIH) \$12,875, June 1, 2009-May 31, 2010.
16. **Dr. Ikhlas Khan** (P.I.-NCNPR), **Dr. Mahmoud ElSohly** (Co-P.I.-NCNPR), **Dr. Troy Smillie** (Co-P.I.-NCNPR), and **Dr. Aruna Weerasooriya** (Co-P.I.-NCNPR). Advancing Drug Development in Medicinal Plants Using Transcriptomics and Metabolics (University of Kentucky/NIH), \$385,095, September 30, 2009-August 31, 2010.
17. **Dr. Ikhlas Khan** (P.I.-NCNPR), and **Dr. Troy Smillie** (Co-P.I.-NCNPR). Quality Assessment of Botanicals-FY09-10 (Herbalife International, Inc.), \$100,000, December 21, 2009-December 20, 2010.
18. **Dr. Xing-Cong Li** (P.I.-NCNPR), and **Dr. Shabana Khan** (Co-P.I.-NCNPR). Chemical Evaluation of *Capsicum annum* (Novus Nutrition Brands, LLC), \$75,000, January 1, 2010-March 31, 2011.
19. **Dr. Soumyajit Majumdar** (P.I.-Pharmaceutics). CORE-NPN Small Grant (National Center for Research Resources [NCRR]), \$34,104, September 1, 2009-June 30, 2010.
20. **Dr. Susan Manly** (P.I.-NCNPR), and **Dr. Khalid Ashfaq** (Co.-P.I.-NCNPR). Production of Tolerance and Desensitization to Poison Ivy Urushiols (ElSohly Laboratories, Inc./NIH/ National Institute of Arthritis and Muculoskeletal and Skin Disease), \$172,329, September 7, 2009-August 31, 2010.
21. **Dr. Katie McClendon** (P.I.-Pharmacy Practice). Assessment of Outcomes Following Bariatric Surgery for Mississippi State Employees (Allergan), \$66,972, December 1, 2009-June 1, 2013.
22. **Dr. Christopher McCurdy** (P.I.-Medicinal Chemistry). Novel Pharmacologic Interventions for Drugs of Abuse-Year 4 (NIH/NIDA), \$345,584, April 1, 2010-March 31, 2011.
23. **Dr. Christophe Mesangeau** (P.I.-Medicinal Chemistry), and **Dr. Christopher McCurdy** (Co-P.I.-Medicinal Chemistry). Non-Peptidic Neuropeptide FF Receptor Probes (NIH), \$176,555, July 1, 2010-June 30, 2011.
24. **Dr. Narasimha Murthy** (P.I.-Pharmaceutics). Transdermal Delivery of Iron (NIH), \$69,305, May 1, 2010-April 30, 2011.

25. **Dr. Narasimha Murthy** (P.I.-Pharmaceutics). Vehicles to Enhance Nose to Brain Bioavailability of Drugs (CORE-NPN), \$149,771 September 1, 2009-June 30, 2010.
26. **Dr. Dale Nagle** (P.I.-Pharmacognosy), and **Dr. Yu-Dong Zhou** (Co-P.I.-Pharmacognosy). Anticancer Drug Discovery that Targets Tumor Hypoxia-Year 6 (NIH/National Cancer Institute), \$270,237, June 1, 2010-May 31, 2011.
27. **Dr. Nirmal Pugh** (P.I.-NCNPR). Biological Standardization Assay Development (Scandinavian Clinical Nutrition), \$7,756, July 1, 2010-August 31, 2010.
28. **Dr. Michael Repka** (P.I.-Pharmaceutics). Bioadhesive Properties of a Generic Nail Lacquer in Comparison to a Branded Product (Chanelle Medical), \$4,950, February 1, 2010 - February 28, 2010.
29. **Dr. Michael Repka** (P.I.-Pharmaceutics), and **Dr. Soumyajit Majumdar** (Co-P.I.-Pharmaceutics). Fundamental Studies in the Application of Low MW Klucel and Hot-Melt Extrusion for the Oral Delivery of Insoluble Drugs from Tablets, Capsules and Oral Film Dosage Forms-Year 1 (Hercules, Inc.), \$47,440, January 1, 2010-December 31, 2010.
30. **Dr. Michael Repka** (P.I.-Pharmaceutics), and **Dr. Soumyajit Majumdar** (Co-P.I.-Pharmaceutics). Center for Thermal Pharmaceutical Processing (Department of Health and Human Services/Health Resources and Services Administration), \$611,820, September 1, 2009-August 31, 2011.
31. **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 (BASF SE), \$38,679, January 1, 2010-December 31, 2010.
32. **Dr. John Rimoldi** (P.I.-Medicinal Chemistry). Synthesis of Carbon Monoxide Donors and Heme Oxygenase Inhibitors (University of Mississippi Medical Center/NIH/National Heart, Lung and Blood Institute), \$26,870, September 1, 2008-July 31, 2010.
33. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice). Mississippi State Hospital and University of Mississippi, School of Pharmacy, Pharmacy Practice Agreement-FY10-11 (Mississippi State Hospital), \$28,000, May 1, 2010-June 30, 2011.
34. **Dr. Ziaeddin Shariat-Madar** (P.I.-Pharmacology). CORE-NPN Small Grant (NCRR), \$35,750, September 1, 2009-June 30, 2010.
35. **Dr. Marc Slattery** (P.I.-Pharmacognosy). Rapid Phase Shift to Algal Dominated Mesophotic Reef Communities in Response to Lionfish Invasion (University of New Hampshire/NSF) \$28,980, December 1, 2009-November 30, 2010.
36. **Dr. Troy Smillie** (P.I.-NCNPR). Analysis of Plant Samples or Dietary Supplements for the Presence of *Hoodia gordonii*-Modification 4 (Federal Trade Commission), \$4,000, January 8, 2009-June 30, 2010.
37. **Dr. Larry Walker** (P.I.-NCNPR). Development of Natural Products from Plants and Microbes for Replacement of Synthetic Pesticides-Amendment 6 (USDA/Agricultural Research Service), \$2,380,393, September 6, 2006-July 31, 2011.
38. **Dr. Larry Walker** (P.I.-NCNPR). Bioassay Support (NIUST), \$184,727, October 1, 2006-September 30, 2011.
39. **Dr. Larry Walker** (P.I.-NCNPR), and **Dr. Charles Hufford** (Co-P.I.-Dean's Office). Phase II Construction of NCNPR Research Wing (NIH/NCRR), \$13,915,445, April 1, 2010-March 31, 2015.
40. **Dr. Larry Walker** (P.I.-NCNPR), and **Dr. Ikhlas Khan** (Co-P.I.-NCNPR). Discovery and Development of Natural Product-Based Insect Management Compounds for Medical,

Veterinary and Urban Concern-Amendment 3 (USDA), \$507,319, September 24, 2007-September 23, 2012.

41. **Dr. Kristine Willett** (P.I.-Pharmacology), and **Dr. John Rimoldi** (Co-P.I.-Medicinal Chemistry). Seagrass Proteomics: Profiling and Surveillance in the Gulf of Mexico (NOAA/NIUST), \$100,000, October 1, 2009-September 30, 2010.
42. **Dr. Kristine Willett** (P.I.-Pharmacology). BaP-mediated Reproductive and Developmental Toxicity (NIH/National Institute of Environmental Health Sciences), \$69,305, April 13, 2010-March 31, 2011.
43. **Dr. Kristine Willett** (P.I.-Pharmacology). Distribution, Bioaccumulation and Toxicity of Nanosilver Particles in Medaka (*Oryzias latipes*)-Year 2 (U.S. Army Engineering Research and Development Center), \$140,805, February 27, 2010-February 26, 2011.
44. **Dr. John Williamson** (P.I.-Medicinal Chemistry). Fungal Endophytes as a Source for Anti-Malarial Drug Leads (U.S. Army Medical Research Acquisition Activity), \$310,055, April 12, 2010-May 11, 2011.
45. **Dr. Yu-Dong Zhou** (P.I.-Pharmacognosy), and **Dr. Dale Nagle** (Co-P.I.-Pharmacognosy). Methods to Examine Mitochondria-Targeted Marine Natural Products (NOAA/NIUST), \$109,290, October 1, 2009-September 30, 2010.
46. **Dr. Jordan Zjawiony** (P.I.-Pharmacognosy). Diterpenes as Selective Kappa Opioid Receptor Agents (The University of North Carolina at Chapel Hill/NIDA), \$68,129, February 15, 2010-January 31, 2011.
47. **Dr. Jordan Zjawiony** (P.I.-Pharmacognosy), and **Dr. Charles Burandt** (Co-P.I.-NCNPR). Chemistry and Pharmacology of Newly Emerging Psychoactive Plants-Year 2 (NIH), \$71,500, May 1, 2009-April 30, 2011.

The following **PUBLICATIONS** have appeared:

1. H. Aichaoui, F. Guenadil, C.R. McCurdy, N. Coco, D.M. Lambert, and J.H. Poupaert, "Synthesis and pharmacological evaluation of antioxidant chalcone derivatives of 2(3H)-benzoxazolones", *Medicinal Chemistry Research*, (2009) 467-476.
2. Ibrahim S. Alsaadawi, and Franck E. Dayan, "Potentials and prospects of sorghum allelopathy in agroecosystems", *Allelopathy Journal*, 24 (2009) 255-270.
3. John Baynes and David B. Murray, "Cardiac and renal function are progressively impaired with aging in Zucker Diabetic Fatty type II diabetic rats", *Landes Bioscience Journals*, 2010.
4. D. Bialonska, S. Kasimsetty, K. Schrader, and D. Ferreira, "The Effect of Pomegranate (*Punica granatum* L.) By-products and Ellagitannins on the Growth of Human Gut Bacteria", *Journal of Agricultural and Food Chemistry*, 57 (2009) 8344-8349.
5. D. Bialonska, S.G. Kasimsetty, S.I. Khan, and D. Ferreira, "Urolithins, Intestinal Microbial Metabolites of Pomegranate Ellagitannins, Exhibit Potent Antioxidant Activity in a Cell Based Assay", *Journal of Agricultural and Food Chemistry*, 57 (2009) 10181-10186.
6. Alicia S. Bouldin, Erin Renee Holmes, Dewey D. Garner, and Ann Hein Devoe, "Purchasing and Managing Inventory", *Pharmacy Management, Leadership, Marketing, and Finance*, Chapter 8, Jones and Bartlett Publishers, Copyright 2011.
7. P. Carvalho, E.B. Furr, and C.R. McCurdy, "(E)-methyl 2-((2S,3S,12bR)-3-ethyl-8-methoxy-1,2,3,4,6,7,12,12b-octahydroindolo [2,3-a]quinolizin-2-yl)-3-methoxyacrylate", *Acta Crystallographica Section E: Structure Reports Online*, (2009) 1441-1442.
8. Naseem A. Charoo, Ziyaur Rahman, Michael A. Repka, and S.N. Murthy, "Electroporation: An Avenue for Transdermal Drug Delivery", *Current Drug Delivery*, 7 (2010) 125-136.

9. Eva Csongradi, Trinity Vera, John M. Rimoldi, Rama S.V. Gadepalli, and David E. Stec, “*In vivo* inhibition of renal heme oxygenase with an imidazole-dioxolane inhibitor”, *Pharmacological Research*, 61 (2010) 525-530.
10. P.R. Daga, J. Duan, and R.J. Doerksen, “Computational model of hepatitis B virus DNA polymerase: Molecular dynamics and docking to understand resistant mutations”, *Protein Science*, 19 (2010) 796-807.
11. Pankaj R. Daga, Ronak Y. Patel, and Robert J. Doerksen, “Template-based Protein Modeling: Recent Methodological Advances”, *Current Topics in Medicinal Chemistry*, 10 (2010) 84-94.
12. Franck E. Dayan, J’Lynn Howell, and Jeffrey D. Weidenhamer, “Dynamic root exudation of sorgoleone and its *in planta* mechanism of action”, *Journal of Experimental Botany*, 60 (2009) 2107-2117.
13. Franck E. Dayan, Maria L.B. Trindade, and Edivaldo D. Velini, “Amicarbazone, a New Photosystem II Inhibitor”, *Weed Science*, 57 (2009) 579-583.
14. F. Dayan, N. Singh, C.R. McCurdy, C. Godfrey, L. Larsen, R. Weavers, J. Van Kink, and N. Perry, “ β -Triketone Inhibitors of Plant *p*-Hydroxyphenylpyruvate Dioxygenase: Modeling and Comparative Molecular Field Analysis of Their Interactions”, *Journal of Agricultural and Food Chemistry*, 57 (2009) 5194-5200.
15. F.E. Dayan, P.R. Daga, S.O. Duke, R.M. Lee, P.J. Tranel, and R.J. Doerksen, “Biochemical and structural consequences of a glycine deletion in the α -8 helix of protoporphyrinogen oxidase”, *BBA - Proteins and Proteomics*, 1804 (2010).
16. Franck E. Dayan, Agnes M. Rimando, Zhiqiang Pan, Scott R. Baerson, Anne Louise Gimsing, and Stephen O. Duke, “Molecules of Interest – Sorgoleone”, *Phytochemistry*, 71 (2010) 1032-1039.
17. L. Dhooghe, S. Maregesi, I. Mincheva, D. Ferreira, J.P.J. Marais, F. Lemièrre, P. Cos, L. Maes, A. Vlietinck, S. Apers, and L. Pieters. “Antiplasmodial Activity of (I-3, II-3)-Biflavonoids and Other Constituents from *Ormocarpum kirkii*” *Phytochemistry*, 71 (2010) 785-791.
18. Jessica A. DiGirolamo, Xing-Cong Li, Melissa R. Jacob, Alice M. Clark, and Daneel Ferreira, “Reversal of Fluconazole Resistance by Sulfated Sterols from the Marine Sponge *Topsentia* sp.”, *Journal of Natural Products*, 72 (2009) 1524-1528.
19. Yuanqing Ding, Xing-Cong Li, and Daneel Ferreira, “4-Arylflavan-3-ols as Proanthocyanidin Models: Absolute Configuration via Density Functional Calculation of Electronic Circular Dichroism”, *Journal of Natural Products*, 73 (2010) 435-440.
20. Stephen Duke, “Parasitic weeds, a scientific challenge”, *Chemistry and Industry*, (2009).
21. Stephen O. Duke, Franck E. Dayan, Joanna Bajsa, Kumudini M. Meepagala, Ruth A. Hufbauer, and Amy C. Blair, “The case against (-)-catechin involvement in allelopathy of *Centaurea stoebe* (spotted knapweed)”, *Plant Signaling & Behavior*, 4 (2009) 422-424.
22. Abir T. El-Alfy, Kelly Ivey, Keisha Robinson, Safwat Ahmed, Mohamed Radwan, Desmond Slade, Ikhlas Khan, Mahmoud ElSohly, and Samir Ross, “Antidepressant-like effect of Δ^9 -tetrahydrocannabinol and other cannabinoids isolated from *Cannabis sativa* L.”, *Pharmacology, Biochemistry and Behavior*, 95 (2010) 434-442.
23. Abir T. El-Alfy, Lisa Wilson, Mahmoud A. ElSohly, and Ehab A. Abourashed, “Towards a better understanding of the psychopharmacology of nutmeg: Activities in the mouse tetrad assay”, *Journal of Ethnopharmacology*, 126 (2009) 280-286.

24. Xiefan Fang, Wu Dong, Cammi Thornton, and Kristine L. Willett, "Benzo[a]pyrene effects on glycine N-methyltransferase mRNA expression and enzyme activity in *Fundulus heteroclitus* embryos", *Aquatic Toxicology*, 98 (2010) 130-138.
25. D. Ferreira, J.P.J. Marais, C. Coleman, and D. Slade, "Proanthocyanidins: Chemistry and Biology", *Comprehensive Natural Products Chemistry II*, Chapter 6.18 (2010) 606-662.
26. Schwanda K. Flowers, Ross E. Vanderbush, Jan K. Hastings, and Donna West, "Web-based Multimedia Vignettes in Advanced Community Pharmacy Practice Experiences", *American Journal of Pharmaceutical Education*, 74 (2010).
27. Xiang Fu, Xing-Cong Li, Yan-Hong Wang, Bharathi Avula, Troy J. Smillie, Wilfred Mabusela, James Syce, Quinton Johnson, William Folk, and Ikhlas A. Khan, "Flavanol Glycosides from the South African Medicinal Plant *Sutherlandia frutescens*", *Planta Med*, 76 (2010) 178-181.
28. A.M. Galal, D. Slade, W. Gul, A.T. El-Alfy, D. Ferreira, and M.A. ElSohly, "Naturally Occurring and Synthetic Cannabinoids and their Potential Therapeutic Applications", *Recent Patents Reviews on CNS Drug Discovery*, 4 (2009) 112-136.
29. J.D. Gardner, D.B. Murray, T.G. Voloshenyuk, G.L. Brower, J.M. Bradley, and J.S. Janicki, "Estrogen attenuates chronic volume overload induced structural and functional remodeling in male rat hearts", *Am J. Physiol Heart Circ Physiol*, 298 (2009) 497-504.
30. Archana J. Gawde, Charles L. Cantrell, and Valtcho D. Zheljzakov, "Dual extraction of essential oil and podophyllotoxin from *Juniperus virginiana*", *Industrial Crops and Products*, 30 (2009) 276-280.
31. J.J.C. Grove, P.S. van Heerden, D. Ferreira, and B.C.B. Bezuidenhout, "Conversion of Pravastatin Into an Advanced Intermediate for the Synthesis of the HMG-CoA Reductase Inhibitor BB-476", *Tetrahedron Letters*, 51 (2010) 57-59.
32. N.N. Henyan, D.M. Riche, J.J. Pitcock, and D.C. Strickland, "Marked Transaminase Elevations and Worsening A1C Resulting from Polyherbal Use in a Patient with Diabetes", *Journal of Pharmacy Practice*, 22 (2009) 600-605.
33. Erin Renee Holmes, "Pharmacists' interventions: So many factors, so little time", *Research in Social and Administrative Pharmacy*, 6 (2010) 3-5.
34. Amany K. Ibrahim, Mohamed M. Radwan, Safwat A. Ahmed, Desmond Slade, Samir A. Ross, Mahmoud A. ElSohly, and Ikhlas A. Khan, "Microbial metabolism of cannfalavin A and B isolated from *Cannabis sativa*", *Phytochemistry*, 71 (2010) 1014-1019.
35. Mohamed A. Ibrahim, Arsala A. Mansoor, Amanda Gross, M. Khalid Ashfaq, Melissa Jacob, Shabana I. Khan, and Mark T. Hamann, "Methicillin-Resistant *Staphylococcus aureus* (MRSA)-Active Metabolites from *Platanus occidentalis* (American Sycamore)", *Journal of Natural Products*, 72 (2009) 2141-2144.
36. H. Kamel, X-C. Li, D. Ferreira, Y. Ding, M. Slattery, and F. Fronczek, "Beyond Polymaxenolide: Cembrane-Africanane Terpenoids from the Hybrid Soft Coral *Sinularia maxima X S polydactyla*", *Journal of Natural Products*, 72 (2009) 900-905.
37. S. G. Kasimsetty, D. Bialonska, K.R. Muntha, C. Thornton, K.L. Willet, and D. Ferreira, "Effects of Pomegranate Chemical Constituents/Intestinal Microbial Metabolites on CYP1B1 in 22Rv1 Prostate Cancer Cells", *Journal of Agricultural and Food Chemistry*, 57 (2009) 10636-10644.
38. S. Kasimsetty, D. Bialonska, G. Ma, S.I. Khan, and D. Ferreira, "Colon Cancer Chemopreventive Effects of Pomegranate Juice Ellagitannins and their Colonic Microfloral Metabolites", *Journal of Agricultural and Food Chemistry*, 58 (2010) 2180-2187.

39. S. Kudrimoti, S.A. Ahmed, P.R. Daga, A.E. Wahba, S.I. Khalifa, R.J. Doerksen, and M.T. Hamann, "Semisynthetic latrunculin B analogs: Studies of actin docking support a proposed mechanism for latrunculin bioactivity", *Bioorganic & Medicinal Chemistry*, 17 (2009) 7517-7522.
40. Swapnil J. Kulkarni, Yakambram Pedduri, Amar G. Chittiboyina, and Mitchell A. Avery, "Asymmetric Total Synthesis of the Caspase-1 Inhibitor (-)-Berkeleyamide A", *Journal of Organic Chemistry*, 75 (2010) 3113-3116.
41. L. Kutrzeba, D. Ferreira, and J.K. Zjawiony, "Intramolecular Transacetylation in Salvinorins D and E", *Journal of Natural Products*, 73 (2010) 707-708.
42. S.P. Levick, D.B. Murray, J.S. Janicki, and G.L. Brower, "Sympathetic nervous system modulation of inflammation and remodeling in the hypertensive heart", *Hypertension*, 55 (2010) 270-276.
43. J. Li, Y. Ding, X-C. Li, D. Ferreira, S.I. Khan, T. Smillie, and I. A. Khan, "Scuteflorins A and B, Dihydropyrano-coumarins from *Scutellaria lateriflora*", *Journal of Natural Products*, 72 (2009) 983-987.
44. H. Liu, C.R. McCurdy, and R.J. Doerksen, "Computational study on the conformations of mitragynine and mitragynaline", *Journal of Molecular Structure: THEOCHEM*, 945 (2010) 57-63.
45. Qing Liu, Ping Zhao, Xing-Cong Li, Melissa R. Jacob, Chong-Ren Yang, and Ying-Jun Zhang, "New *a*-Tetralone Galloylglucosides from the Fresh Pericarps of *Juglans sigillata*", *Helvetica Chimica Acta*, 93 (2010) 265-271.
46. Francis Machumi, Voldymyr Samoylenko, Abiy Yenesew, Solomon Derese, Jacob O. Midiwo, Frank T. Wiggers, Melissa R. Jacob, Babu L. Tekwani, Shabana I. Khan, Larry A. Walker, and Ilias Muhammad, "Antimicrobial and Antiparasitic Abietane Diterpenoids from the Roots of *Clerodendrum eriophyllum*", *Natural Product Communications*, 5 (2010) 853-858.
47. Soumyajit Majumdar, Tushar Hingorani, and Ramesh Srirangam, "Evaluation of Active and Passive Transport Processes in Corneas Extracted from Preserved Rabbit Eyes", *Journal of Pharmaceutical Sciences*, 99 (2010) 1921-1930.
48. Shui-Chun Mao, Yang Liu, J. Brian Morgan, Mika B. Jekabsons, Yu-Dong Zhou, and Dale G. Nagle, "Lipophilic 2,5-Disubstituted Pyrroles from the Marine Sponge *Mycale* sp. Inhibit Mitochondrial Respiration and HIF-1 Activation", *Journal of Natural Products*, 72 (2009) 1927-1936.
49. K.S. McClendon, D.M. Riche, and G.I. Uwaifo, "Orlistat: current status in clinical therapeutics", *Expert Opinion on Drug Safety*, 8 (2009) 727-744.
50. Zlatko Mehmedic, Suman Chandra, Desmond Slade, Heather Denham, Susan Foster, Amit S. Patel, Samir A. Ross, Ikhlas A. Khan, and Mahmoud A. ElSohly, "Potency Trends of Δ^9 -THC and Other Cannabinoids in Confiscated Cannabis Preparations from 1993 to 2008", *Journal of Forensic Sciences*, (2010).
51. Damaris A.F. Meujo, Dion A. Kevin, Jiangnan Peng, John J. Bowling, Jianping Liu, and Mark T. Hamann, "Reducing oyster-associated bacteria levels using supercritical fluid CO₂ as an agent of warm pasteurization", *International Journal of Food Microbiology*, 138 (2010) 63-70.
52. Cassia S. Mizuno, Amar G. Chittiboyina, Falgun H. Shah, Akshay Patny, Theodore W. Kurtz, Harrihar A. Pershadsingh, Robert C. Speth, Vardan T. Karamyan, Paulo B. Carvalho, and Mitchell A. Avery, "Design, Synthesis, and Docking Studies of Novel Benzimidazoles

- for the Treatment of Metabolic Syndrome”, *Journal of Medicinal Chemistry*, 53 (2010) 1076-1085.
53. A. Moawad, M. Hetta, J. K. Zjawiony, M. R. Jacob, M. Hifnawy, and D. Ferreira, “Phytochemical Investigation of *Cycas circinalis* and *Cycas revoluta* Leaflets: Moderately Active Antibacterial Biflavonoids”, *Planta Medica*, 76 (2010) 1-7.
 54. R. Mohammed, J. Peng, M. Kelly, M. Yousaf, E. Winn, S. Odde, Z. Bie, A. Xie, R.J. Doerksen, and M.T. Hamann, “Polyketide-peroxides from a Jamaican Plakortis sponge”, *Australian Journal of Chemistry*, 63 (2010) 1-9.
 55. N.V. de Moraes, R.A.C. Moretti, E.B. Furr, C.R. McCurdy, and V.L. Lanchote, “Determination of mitragynine in rat plasma by LC-MS-MS: Application to pharmacokinetics”, *Journal of Chromatography, B*, 877 (2009) 2593-2597.
 56. E.M.F. Muri, B.A. Abraham, T.G. Barros, J.S. Williamson, and O.A.C. Antunes, “Isomannide and Derivatives, Chemical and Pharmaceutical Applications”, *Mini-Reviews in Organic Chemistry*, 7 (2010) 75-83.
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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 from September 2009 to Present: 3

US Patents Pending: 25

Recent US Patents Granted:

Agents with Selective K-Opioid Receptor Activity

7,687,538

Issued: March 30, 2010

Inventors: Jordan Zjawiony, Hesham Fahmy, Jeremy Stewart, Brian Roth

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

- **Mr. Sunil Battu** (Pharmaceutics) and **Mr. Swapnil Kulkarni** (Medicinal Chemistry) were honored with *Graduate Achievement Awards* during Commencement activities in May.
- **Ms. Sarah Chajkowski** was presented with the *Robert A. Magarian Outstanding Podium Presentation Award*, and **Mr. Swapnil Kulkarni** was presented with the *Thomas L. Lemke Outstanding Poster Presentation Award*, during the 2010 MALTO meeting held in May. Both are Medicinal Chemistry graduate students. MALTO is an annual meeting of the Medicinal Chemistry and Pharmacognosy departments from Schools of Pharmacy in Mississippi, Arkansas, Louisiana, Texas and Oklahoma.
- **Dr. Ikhlas Khan** was selected as the recipient of the 2010 American Herbal Products Association (AHPA) *Herbal Insight Award*. This award is given to individuals or non-commercial organizations that have a significant impact on furthering knowledge and understanding of botanicals and their uses. **Dr. Khan** was also named as the recipient of the *2011 Tyler Prize* during the annual meeting of the American Society of Pharmacognosy. The Tyler Prize is awarded to recognize an individual who has made outstanding scientific contributions to the broad field of dietary supplements, with special emphasis on botanicals.
- **Dr. Leigh Ann Ross** was named by the American Association of Colleges of Pharmacy as one of three finalists for the *Transformational Community Service Award*. This award recognizes the project that her very capable and committed team is doing in the Mississippi Delta to meet the needs of under served citizens. This complex and innovative project is truly making a difference in the lives of families and simultaneously creating learning opportunities for our students and pharmacy residents.
- **Mr. Philip Schwab** (Pharmacy Administration) received the *APhA-APRS ESAS Postgraduate Best Paper Award Honorable Mention* during the annual meeting of the American Pharmaceutical Association in March,

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

cc: Dean Barbara G. Wells
Ms. Dabney Weems
Dr. Robin Buchannon, Office of Research