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Research News: 2011

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**THE UNIVERSITY OF MISSISSIPPI
SCHOOL OF PHARMACY
OFFICE OF THE DEAN
UNIVERSITY, MS 38677
PHONE: (662) 915-7828**

TO: All School of Pharmacy and USDA Personnel

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

DATE: July 25, 2011

SUBJECT: Research News

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

1. **Dr. Benjamin Banahan** (P.I.-RIPS/CPMM). Prevalence and Treatment of Central Precocious Puberty in the Medicaid Population (Endo Pharmaceuticals, Inc.), \$206,697, March 28, 2011-March 27, 2012.
2. **Dr. Benjamin Banahan** (P.I.-RIPS/CPMM), and **Dr. Patrick Pace** (Co-P.I.-RIPS/CPMM). Retrospective Drug Utilization Review, Support of the Drug Utilization Board and 2nd Level Appeal for Prior Authorization Process for the MS Division of Medicaid (Mississippi Division of Medicaid/U.S. Department of Health and Human Services), \$1,364,354, December 10, 2010-December 31, 2013.
3. **Dr. Charles Cantrell** (P.I.-USDA), and **Dr. Samir Ross** (Co-P.I.-NCNPR). Project Agreement #K-1896p (The International Science and Technology Center), \$240,000, November 2010-November 2013.
4. **Dr. Alice M. Clark** (P.I.-NCNPR), and **Dr. Ameeta Agarwal** (Co-P.I.-NCNPR). New Drugs for Opportunistic Infections - FY 2011-12 (National Institute of Allergy and Infectious Diseases), \$384,375, July 1, 2011-June 30, 2012.
5. **Dr. John Cleary** (P.I.-Pharmacy Practice), and **Dr. Kayla Stover** (Co-P.I.-Pharmacy Practice). Cardiac Toxicity of Echinocandin Antifungals, \$118,880, May 23, 2010-March 15, 2013.
6. **Dr. Robert Doerksen** (P.I.-Medicinal Chemistry), Dr. Dawn Wilkins (Co-P.I.-Computer Science), and Dr. Yixin Chen (Co-P.I.-Computer Science). Combined Computational Chemistry and Computational Biology Modeling for Understanding Protein-Protein and Protein-Ligand Interactions - Competitive Seed Grant (Mississippi State University/National Science Foundation/Experimental Program to Stimulate Competitive Research), \$36,388, September 1, 2009-August 31, 2011.
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 - FY 2010-11 - Modification No. 2 (National Institute on Drug Abuse), \$19,886, March 16, 2010-March 15, 2011.

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 - FY 2011-12 - Modification No. 3 (National Institute on Drug Abuse), \$846,882, March 16, 2010-March 15, 2012.
9. **Dr. Mark Hamann** (P.I.-Pharmacognosy). Food Additives from Marine Bacteria, Algae and Invertebrates - Amendment No. 2 (Kraft Foods, Inc.), \$50,000, September 1, 2009-September 30, 2011.
10. **Dr. Erin Holmes** (P.I.-Pharmacy Administration). Pharmacy Student Perceptions of Community Pharmacy Residency Programs (National Association of Chain Drug Stores Foundation), \$4,000, March 17, 2011-May 27, 2011.
11. **Dr. Ikhlas Khan** (P.I.-NCNPR), and **Dr. Larry Walker** (Co-P.I.-NCNPR). Botanical Dietary Supplement Research - FY 2010-11 (Food and Drug Administration), \$1,608,000, September 20, 2010-August 31, 2011.
12. **Dr. Ikhlas Khan** (P.I.-NCNPR), **Dr. Mahmoud ElSohly** (Co-P.I.-NCNPR), **Dr. Troy Smillie** (Co-P.I.-NCNPR), and **Dr. Aruna Weerasoriya** (Co-P.I.-NCNPR). Advancing Drug Development in Medicinal Plants Using Transcriptomics and Metabolics - Year 2 (University of Kentucky/National Institutes of Health), \$344,906, September 30, 2010-August 31, 2011.
13. **Dr. Ikhlas Khan** (P.I.-NCNPR), and **Dr. Troy Smillie** (Co-P.I.-NCNPR). Botanical Identification, Characterization, Quality Assurance and Quality Control (University of Illinois/National Institutes of Health), \$176,555, September 1, 2010-August 31, 2011.
14. **Dr. Soumyajit Majumdar** (P.I.-Pharmaceutics), and **Dr. Michael Repka** (Co-P.I.-Pharmaceutics). Development of Tetrahydrocannabinol Prodrugs for Topical Treatment of Glaucoma (ElSohly Laboratories, Inc./ National Institutes of Health), \$55,423, March 1, 2011-February 29, 2012.
15. **Dr. Christopher McCurdy** (P.I.-Medicinal Chemistry). Non-Peptidic Neuropeptide FF Receptor Probes - Year 2 (National Institutes of Health), \$171,259, July 1, 2011-June 30, 2012.
16. **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), \$311,025, April 1, 2011-March 31, 2012.
17. **Dr. S. Narasimha Murthy** (P.I.-Pharmaceutics). Transdermal Delivery of Iron (National Institutes of Health), \$66,533, May 1, 2011-April 30, 2012.
18. **Dr. Dale Nagle** (P.I.-Pharmacognosy), and **Dr. Yu-Dong Zhou** (Co-P.I.-Pharmacognosy). Anticancer Drug Discovery that Targets Tumor Hypoxia - Year 7 (National Institutes of Health), \$243,214, June 1, 2011-May 31, 2012.
19. **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 2 (BASF SE), \$38,679, January 1, 2011-December 31, 2011.
20. **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 2 (Hercules Incorporated), \$47,440, January 1, 2010-December 31, 2011.

21. **Dr. Daniel Riche** (P.I.-Pharmacy Practice). Impact of Blueberries on Hyperuricemia and Gout: A Pilot Study (U.S. Highbush Blueberry Council), \$47,348 (Year 1 - \$22,674; Year 2 - \$24,674), July 1, 2011-July 1, 2013.
22. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice), and **Dr. Lauren Bloodworth** (P.I.-Pharmacy Practice). Pharmacy Cardiovascular Risk Reduction Project (Mississippi State Department of Health/Centers for Disease Control), \$300,000, July 1, 2011-June 29, 2011.
23. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice). Mississippi State Hospital and University of Mississippi School of Pharmacy Practice Agreement - 2011-12 (Mississippi State Hospital), \$24,000, July 1, 2011-June 30, 2012.
24. **Dr. Ziaeddin Shariat-Madar** (P.I.-Pharmacology). Characterization of the Inhibitors of Prolylcarboxypeptidase (Dr. August Wolff GmbH & Co. KG Arzneimittel), \$9,625, July 1, 2011-September 30, 2011.
25. **Dr. Justin Sherman** (P.I.-Pharmacy Practice), **Dr. Laurie Warrington** (Co-P.I.-Pharmacy Practice), **Dr. Daniel Riche** (Co-P.I.-Pharmacy Practice), **Dr. Leigh Ann Ross** (Co-P.I.-Pharmacy Practice), and **Dr. Lauren Bloodworth** (Co-P.I.-Pharmacy Practice). Active Surveillance Attitudes and Perceptions in Prostate Cancer (National Rural Health Association/Emory University/U.S. Department of Health & Human Services/Centers for Disease Control), \$49,000, October 1, 2010-September 30, 2011.
26. **Dr. Marc Slattery** (P.I.-Pharmacognosy), **Dr. John Rimoldi** (Co-P.I.-Medicinal Chemistry), and **Dr. Deborah Gochfeld** (Co-P.I.-NCNPR). Coral Reef Landscape Response to Ocean Acidification (University of North Carolina Wilmington/U.S. Department of Commerce/National Oceanic and Atmospheric Administration), \$75,000, April 1, 2011-May 31, 2012.
27. **Dr. Gregory Tschumper** (P.I.-Chemistry), **Dr. Amal Dass** (Co-P.I.-Chemistry), **Dr. Nathan Hammer** (Co-P.I.-Chemistry), **Dr. Keith Hollis** (Co-P.I.-Chemistry), **Dr. Randy Wadkins** (Co-P.I.-Chemistry); **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), \$375,128, September 1, 2010-August 31, 2011.
28. **Dr. Larry Walker** (P.I.-NCNPR). Discovery and Development of Natural Products for Pharmaceutical and Agrichemical Applications (U.S. Department of Agriculture/Agricultural Research Service), \$2,350,039, June 1, 2011-May 30, 2016.
29. **Dr. Larry Walker** (P.I.-NCNPR), **Dr. Babu Tekwani** (Co-P.I.-NCNPR), and **Dr. Dhammika Nanayakkara** (Co-P.I.-NCNPR). Development of Safer Drugs for Malaria and Leishmaniasis in US. Troops, Civilian Personnel and Travelers - Modification No. 1 (U.S. Army Medical Research and Materiel Command), \$1,000,000, September 1, 2010-August 31, 2012.
30. **Dr. Barbara Wells** (P.I.-Pharmacy Dean's Office), and **Dr. Charles Hufford** (Co-P.I.-Pharmacy Dean's Office). National Center for Natural Products Research - Phase 2 (Department of Health and Human Services/Health Resources and Services Administration), \$8,479,000, September 1, 2010-August 31, 2013.
31. **Dr. Kristine Willett** (P.I.-Pharmacology). BaP-mediated Reproductive and Developmental Toxicity - Year 2 (National Institutes of Health/National Institute of Environmental Health Sciences), \$68,612, April 1, 2011-March 31, 2012.

32. **Dr. Jordan Zjawiony** (P.I.-Pharmacognosy). Diterpenes as Selective Kappa Opioid Receptor Agents (The University of North Carolina at Chapel Hill/National Institutes of Drug Abuse), \$60,562, February 15, 2010-January 31, 2012.
33. **Dr. Jordan Zjawiony** (P.I.-Pharmacognosy), and **Dr. Charles Burandt** (Co-P.I.-NCNPR). Psychopharmacology of Plants and Their Metabolites Used as Marijuana Substitutes (National Institutes of Health), \$71,500, June 15, 2011-May 31, 2012.

The following **PUBLICATIONS** have appeared:

1. Jessica E. Adkins, Edward W. Boyer and Christopher R. McCurdy. “*Mitragyna speciosa*, A Psychoactive Tree from Southeast Asia with Opioid Activity”, *Current Topics in Medicinal Chemistry*, **11** (2011) 1165-1175.
2. Elham Amin, Seham S. El-Hawary, Magda M. Fathy, Rabab Mohammed, Zulfiqar Ali, Nurhayat Tabance, David E. Wedge, James J. Becnel, and Ikhlas A. Khan. “Triterpenoidal Saponins: Bioactive Secondary Metabolites from *Zygophyllum coccineum*”, *Planta Med*, **77** (2011) 488-491.
3. Bharathi Avula, Yan-Hong Wang, Zulfiqar Ali, Troy J. Smillie, and Ikhlas A. Khan. “Quantitative Determination of Triperpene Saponins and Alkenated-Phenolics from *Labisia pumila* Using an LC-UV/ELSD Method and Confirmation by LC-ESI-TOF”, *Planta Med*, (2011) DOI: 10.1055/s-0030-1271037.
4. Bharathi Avula, Yan-Hong Wang, Zulfiqar Ali, and Ikhlas Khan. “Quantitative Determination of Chemical Constituents from Seeds of *Nigella sativa* L. Using HPLC-UV and Identification by LC-ESI-TOF”, *Journal of AOAC International*, **93** (2010) 1778-1787.
5. Bharathi Avula, Shabana I. Khan, Babu L. Tekwani, N.P. Dhammika Nanayakkara, James D. McChesney, Larry A. Walker, and Ikhlas A. Khan. “Analysis of primaquine and its metabolite carboxyprimaquine in biological samples: enantiomeric separation, method validation and quantification”, *Biomedical Chromatography*, (2010) DOI: 10.1002/bmc.1557.
6. Bharathi Avula, Yan-Hong Wang, Nurdan S. Duzgoren-Aydin, and Ikhlas A. Khan. “Inorganic elemental compositions of commercial multivitamin/mineral dietary supplements: Application of collision/reaction cell inductively coupled-mass spectroscopy”, *Food Chemistry*, **127** (2011) 54-62.
7. Benjamin F. Banahan. “Medication Safety and Pharmacovigilance”, *Understanding Pharmacoepidemiology*, New York, NY: McGraw-Hill, (2010) 155-168 .
8. R.G. Belz, N. Cedergreen, and S.O. Duke. “Herbicide hormesis – can it be useful in crop production?”, *Weed Research*, **51** (2011) 321-332.
9. John P. Bentley. “Biostatistics and Pharmacoepidemiology”, *Understanding Pharmacoepidemiology*, New York, NY: McGraw-Hill, (2010) 79-104.
10. D. Bialonska, P. Ramnani, S.G. Kasimsetty, K.R. Muntha, G.R. Gibson, and D. Ferreira. “The Influence of Pomegranate By-product and Punicalagins on Selected Groups of Human Intestinal Microbiota”, *Int. J. Food Microbiol*, **140** (2010) 175-182.
11. Suvapun Bunniran and David J. McCaffrey. “Healthcare Professionals and Interdisciplinary Care”, *Introduction to Healthcare Delivery*, Jones and Bartlett Learning, (2011) 43-80.
12. S. M. Chajkowski, J. Mallela, D. E. Watson, J. Wang, C. R. McCurdy, J. M. Rimoldi, and Z. Shariat-Madar. “Highly selective hydrolysis of kinins by recombinant prolylcarboxypeptidase” *Biochemical and Biophysical Research Communications*, **405** (2011) 338-343.

13. Meiwan Chen, Xin Pan, Hongmei Wu, Ke Han, Xiaobao Xie, D.E. Wedge, M.A. Repka, and Chuanbin Wu. "Preparation and anti-bacterial properties of a temperature-sensitive gel containing nanoparticles", *Pharmazie*, **65** (2010) DOI: 10.1691/ph.2010.0158.
14. Franck E. Dayan, and Emilie A. Dayan. "Porphyrins: One Ring in the Colors of Life", *American Scientist*, **99** (2011) 236-243.
15. L. Du, F. Mahdi, M.B. Jekabsons, D.G. Nagle, and Y.-D. Zhou. "Natural and Semisynthetic Mammea-Type Isoprenylated Dihydroxycoumarins Uncouple Cellular Respiration", *J. Nat. Prod.*, **74** (2011) 240-248.
16. Stephen O. Duke. "Comparing Conventional and Biotechnology-Based Pest Management", *Journal of Agricultural and Food Chemistry*, **59** (2011) 5793-5798.
17. Stephen O. Duke, Antonio Evidente, Michele Fiore, Agnes M. Rimando, Franck E. Dayan, Maurizio Vurro, Nicole Christiansen, Ralf Looser, Johannes Hutzler, and Klaus Grossmann. "Effects of the aglycone of ascaulitoxin on amino acid metabolism in *Lemna paucicostata*", *Pesticide Biochemistry and Physiology*, **100** (2011) 41-50.
18. Nurdan S. Duzgoren-Aydin, Bharathi Avula, Kristine L. Willett, and Ikhlas A. Khan. "Determination of total and partially extractable solid-bound element concentrations using collision/reaction cell inductively coupled plasma-mass spectrometry and their significance in environmental studies", *Environ Monit Assess*, **172** (2011) 51-66.
19. Sawsan El-Masry, Hala M. Hammada, Mohamed M. Radwan, Samir A. Ross, and Hala H. Zaatout. "C-Flavonoidal Glycosides from *Erythrina caffra* Flowers", *Natural Product Sciences*, **16** (2010) 217-222.
20. Mohamed A. El-Shanawany, Gamal A. Mohamed, Alaa M. Nafady, Sabrin R.M. Ibrahim, Mohamed M. Radwan, and Samir A. Ross. "A new xanthone from the roots of *Centaurium spicatum*", *Phytochemistry Letters*, **4** (2011) 126-128.
21. Jakub Fichna, Kevin Lewellyn, Feng Yan, Bryan L. Roth, and Jordan K. Zjawiony. "Synthesis and biological evaluation of new salvinorin A analogues incorporating natural amino acids", *Bioorganic & Medicinal Chemistry Letters*, **21** (2011) 160-163.
22. James A. Fishback, Christophe Mesangeau, Jacques H. Poupaert, Christopher R. McCurdy, and Rae R. Matsumoto. "Synthesis and characterization of [³H]-SN56, a novel radioligand for the σ_1 receptor" *European Journal of Pharmacology*, **653** (2011) DOI:10.1016/j.ejphar.2010.10.099.
23. Gang Fu, Robert J. Doerksen, and Ping Xu. "Assignment of absolute configuration of sulfinyl dilactones: Optical rotations and ¹H NMR experiment and DFT calculations", *Journal of Molecular Structure*, **987** (2011) 166-173.
24. Linda Garcés-Ramírez, Jennifer L. Green, Takato Hiranita, Theresa A. Kopajtic, Maddalena Mereu, Alexandra M. Thomas, Christophe Mesangeau, Sanju Narayanan, Christopher R. McCurdy, Jonathan L. Katz, and Gianluigi Tanda. "Sigma Receptor Agonists: Receptor Binding and Effects on Mesolimbic Dopamine Neurotransmission Assessed by Microdialysis", *Biol Psychiatry*, **69** (2011) 208-217.
25. Vivek Kumar Garripelli, Jin-Ki Kim, Sejin Son, Won Jong Kim, Michael A. Repka, and Seongbong Jo. "Matrix metalloproteinase-sensitive thermogelling polymer for bioresponsive local drug delivery", *Acta Biomaterialia*, **7** (2011) 1984-1992.
26. Faouzi Guenadil, Hocine Aichaoui, Coco N. Kapanda, Didier M. Lambert, Christopher R. McCurdy, and Jacques H. Poupaert. "Design and synthesis of 3-acyl-2(3*H*)-benzoxazolone and 3-acyl-2(3*H*)-benzothiazolone derivatives", *Monatsh Chem*, **142** (2011) 67-80.

27. Carlos Guitart, Marc Slattery, Sridevi Ankisetty, Mohamed Radwan, Samir J. Ross, Robert J. Letcher, and Christopher M. Reddy. "Contemporary ¹⁴C radiocarbon levels of oxygenated polybrominated diphenyl ethers (O-PBDEs) isolated in sponge-cyanobacteria associations", *Marine Pollution Bulletin*, **62** (2011) 631-636.
28. Ketan Hippalgaonkar, Ramesh Srirangam, Bharathi Avula, Ikhlas A. Khan, and Soumyajit Majumdar. "Interaction between Topically and Systemically Coadministered P-Glycoprotein Substrates/Inhibitors: Effect on Vitreal Kinetics", *Drug Metabolism and Disposition*, **38** (2010) 1790-1797.
29. David A. Holdford, Terri L. Warholak, Donna West-Strum, John P. Bentley, Daniel C. Malone, and John E. Murphy. "Teaching the Science of Safety in US Colleges and Schools of Pharmacy", *American Journal of Pharmaceutical Education*, **75** (2011) Article 77.
30. Book Review by Erin R. Holmes: David P. Zgarrick. "Getting Started as a Pharmacy Faculty Member", *American Journal of Pharmaceutical Education*, **75** (2011) Article 58.
31. Yuhui Hu, Minghui Wu, Ikhlas A. Khan, and Asok K. Dasmahapatra. "Medaka (*Oryzias Latipes*) as a Model to Study Fetal Alcohol Spectrum Disorder", *Pregnancy and Alcohol Consumption*, (2011) 129-153.
32. Nirmal Joshee, Prahlad Parajuli, Fabricio Medina-Bolivar, Agnes M. Rimando, and Anand K. Yadav. "Scutellaria Biotechnology: Achievements and Future Prospects", *Bulletin of the University of Agricultural Sciences and Veterinary Medicine Horticulture*, **67** (2010) 1-10.
33. Nidhi Kaushal, Matthew J. Robson, Harsha Vinnakota, Sanju Narayanan, Bonnie A. Avery, Christopher R. McCurdy and Rae R. Matsumoto. "Synthesis and pharmacological evaluation of 6-acetyl-3-(4-(4-(4-florophenyl)piperazin-1-yl)butyl)benzo[d]oxazol-2(3H)-one (SN79), a cocaine antagonist, in rodents", *AAPS Journal*, (2011) DOI: 10.1208/s12248-011-9274-9.
34. Rahul Khanna, S. Suresh Madhavan, Michael J. Smith, Julie H. Patrick, Cindy Tworek, and Barbara Becker-Cottrill. "Assessment of Health-Related Quality of Life Among Primary Caregivers of Children with Autism Spectrum Disorders", *J Autism Dev Disord*, (2010) DOI: 10.1007/s10803-010-1140-6.
35. Rahul Khanna, S. Suresh Madhavan, Abhijeet Bhanegaonkar, and Scot C. Remick. "Prevalence, Healthcare Utilization, and Costs of Breast Cancer in a State Medicaid Fee-for-Service Program", *Journal of Women's Health*, **20** (2011) DOI: 10.1009/jwh.2010.2298.
36. Jihoon Kim, Yanggy Lee, Kaushik Singha, Hyun Woo Kim, Jae Ho Shin, Seongbong Jo, Dong-Keun Han, and Won Jong Kim. "NONOates—Polyethylenimine Hydrogel for Controlled Nitric Oxide Release and Cell Proliferation Modulation", *Bioconjugate Chemistry*, **22** (2011) 1031-1038.
37. Zhanar A. Kozhamkulova, Mohamed M. Radwan, Galiya E. Zhusupova, Zharilkasin A. Abilov, and Samir A. Ross. "Halimodendrin I, a new acylated triterpene glycoside from *Halimodendron halodendron* (Fabaceae)", *Phytochemistry Letters*, (2011) DOI:10.1016/j.phytol.2011.06.004.
38. M. Kumarihamy, F.R. Fronczek, D. Ferreira, M. Jacob, S.I. Khan, and N.P.D. Nanayakkara. "Bioactive 1,4-Dihydroxy-5-phenyl-2-pyridinone Alkaloids from *Septoria pistaciarum*", *J.Nat. Prod.*, **73** (2010) 1250-1253.
39. X-C. Li, D. Ferreira, and Y. Ding. "Determination of Absolute Configuration of Natural Products: Theoretical Calculation of Electronic Circular Dichroism as a Tool", *Current Organic Chemistry*, **14** (2010) 1678-1697.
40. Xing-Cong Li, K. Suresh Babu, Melissa R. Jacob, Shabana I. Khan, Ameeta K. Agarwal, and Alice M. Clark. "Natural Product-Based 6-Hydroxy-2,3,4,6-tetrahydropyrrolo[1,2-

- α]pyrimidinium Scaffold as a New Antifungal Template”, *ACS Medicinal Chemistry Letters*, (2011) DOI: 10.1021/ml200020h.
41. Haining Liu, Larry A. Walker, N.P. Dhammika Nanayakkara, and Robert J. Doerksen. “Methemoglobinemia Caused by 8-Aminoquinoline Drugs: DFT Calculations Suggest an Analogy to H₄B’s Role in Nitric Oxide Synthase”, *Journal of the American Chemical Society*, **133** (2011) 1172-1175.
 42. Tasneem Lokhandwala, Rahul Khanna, and Donna West-Strum. “Hospitalization Burden Among Individuals with Autism”, *J Autism Dev Disord*, (2011) DOI: 10.1007/s10803-011-1217-x.
 43. F. Mahdi, M. Falkenberg, E. Ioannou, V. Roussis, Y.-D. Zhou, and D.G. Nagle. “Thyrsiferol inhibits mitochondrial respiration and HIF-1 activation”, *Phytochem. Lett.*, **4** (2011) 75-78.
 44. Soumyajit Majumdar and Ramesh Srirangam. “Potential of the bioflavonoids in the prevention/treatment of ocular disorders”, *Journal of Pharmacy and Pharmacology*, **62** (2010) 951-965.
 45. S.M. Maregesi, N. Hermans, L. Dhooghe, K. Cimanga, D. Ferreira, C. Pannecouque, D.A. Vanden Berghe, P. Cos, L. Maes, A.J. Vlietinck, S. Apers, and L. Pieters. “Phytochemical and Biological Investigations of *Elaeodendron schlechteranum*”, *J. Ethnopharmacol*, **129** (2010) 319-326.
 46. Sarah McBane, CoraLynn B. Trewet, S. Nadra Havican, Katie Kiser, Christine Klingel, Daniel M. Riche, Julie M. Sease, David P. Nau, and Alan J. Zillich. “Tenets for Developing Quality Measures for Ambulatory Clinical Pharmacy Services”, *Pharmacotherapy*, **31** (2011) 115-134.
 47. David J. McCaffrey. “Medication Utilization Patterns”, Understanding Pharmacoepidemiology, New York, NY: McGraw-Hill, (2010) 133-153.
 48. Christopher R. McCurdy, and Thomas E. Prisinzano. “Opioid Receptor Ligands”, Burger’s Medicinal Chemistry, Drug Discovery, and Development, Volume 8, Edited by Donald J. Abraham and David P. Rotella (2010) 569-735.
 49. Christopher R. McCurdy. Editorial – “Strategies to Treat Substance Abuse and Addiction”, *Current Topics in Medicinal Chemistry*, **11** (2011) 1102.
 50. Clive M. Mendonca, David J. McCaffrey, Benjamin F. Banahan, John P. Bentley, and Yi Yang. “Effect of Direct-to-Consumer Drug Advertising Exposure on Information Search”, *Drug Information Journal*, **45** (2011) 503-515.
 51. Cassia S. Mizuno, Shiby Paul, Nanjoo Suh, and Agnes M. Rimando. “Synthesis and biological evaluation of retinoid-chalcones as inhibitors of colon cancer cell growth”, *Bioorganic & Medicinal Chemistry Letters*, **20** (2010) 7385-7387.
 52. S. Narasimha Murthy, Srinivasa M. Sammeta, and C. Bowers. “Magnetophoresis for enhancing transdermal drug delivery: Mechanistic studies and patch design”, *Journal of Controlled Release*, **148** (2010) 197-203.
 53. S. Narasimha Murthy, Anroop B. Nair, Nathan Hammer, Siva Ram Kiran Vaka, and Ashley E. Wright. “Dermatokinetics of Nanoparticles (25nm)”, *International Journal of Innovative Pharmaceutical Research*, (2010), 37-43.
 54. Anroop B. Nair, Bireswar Chakraborty, and S. Narasimha Murthy. “Effect of Polyethylene Glycols on the Trans-Ungual Delivery of Terbinafine”, *Current Drug Delivery*, **7** (2010) 407-414.

55. Sanju Narayanan, Rohit Bhat, Christophe Mesangeau, Jacques H. Poupaert, and Christopher R. McCurdy. "Early development of sigma-receptor ligands", *Future Med. Chem.*, **3** (2011) 79-94.
56. Sanju Narayanan, Christophe Mesangeau, Jacques H. Poupaert, and Christopher R. McCurdy. "Sigma Receptors and Cocaine Abuse", *Current Topics in Medicinal Chemistry*, **11** (2011) 1128-1150.
57. Charles H. Noble, John P. Bentley, David Campbell, and Jatinder J. Singh. "In Search of Eminence: A Personal Brand-Building Perspective on the Achievement of Scholarly Prominence in Marketing", *Journal of Marketing Education*, **32** (2010) 314-327.
58. Milorad M. Novicevic, Allison B. Duke, Erin R. Holmes, Jacob W. Breland, M. R. Buckley, and Mark N. Bing. "Customers cocreating value with the firm: implications for IHRM", *The International Journal of Human Resource Management*, **22** (2011) 746-761.
59. Milorad M. Novicevic, Leigh Ann Bynum, Mario Hayek, and Tony Fang. "Integrating Banard's and contemporary views of industrial relations and HRM", *Journal of Management History*, **17** (2011) 126-138.
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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 since July, 2010: 1

U. S. Patent Applications Pending: 16

Recent U. S. Patents Granted: 4 (see below)

U. S. Issued Patents:

Delivery of Medicaments to the Nail via "Etching"

Repka et al; Pharmaceutics; *US Patent Number 7,959,904; Issue date 6/14/11*

Highly Purified Amphotericin B

Cleary et al; Pharmacy Practice; *US Patent Number 7,867,981; Issue date 1/11/11*

Potent Immunostimulatory Extracts from Microalgae

Pasco et al; NCNPR; *US Patent Number 7,846,452; Issue date 12/7/10*

High Molecular Weight Polysaccharide from Aloe [CON]

Pasco et al; NCNPR; *US Patent Number 7,767,655; Issue date 8/3/10*

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

- **Dr. Charles Cantrell** (USDA) and **Dr. Samir Ross** (NCNPR) traveled to the Republic of Kazakhstan from July 4-10 to discuss the ISTC funded project between the Institute of Plant Biology and Technology (in Almaty, Kazakhstan), USDA, and the University of Mississippi. Drs. Cantrell and Ross are collaborators in this project and were very successful in collecting certain promising plants from Kazakhstan.
- **Ms. Xiefan Fang** (Pharmacology) and **Mr. Clive Mendonca** (Pharmacy Administration) were honored with Graduate Achievement Awards during School of Pharmacy Commencement activities in May.
- **Ms. Xiefan Fang** also recently won three awards to support her research and travel: South Central Chapter of the Society of Toxicology Transfer Award - \$1,000; Graduate

Student Council Research Grant, 2010-2011 - \$500; and Society of Toxicology Graduate Student Travel Support Award to attend the SOT 50th Anniversary Annual Meeting in Washington, DC, during March - \$1,000.

- **Mr. Swapnil Kulkarni** (Medicinal Chemistry) was selected as a Class Marshal of the graduating doctoral students during Commencement activities in May. Mr. Kulkarni took part in the doctoral hooding ceremony on Friday night and also led the graduate students into the Saturday morning University Commencement ceremony.
- One of the Five Most Downloaded Articles from the *Physiology and Molecular Biology of Plants* during January-June 2011 was: “Propagation through Alginate Encapsulation of Axillary Buds of *Cannabis sativa* L.-An Important Medicinal Plant” – **Dr. Hemant Lata, Dr. Suman Chandra, Dr. Ikhlas Khan and Dr. Mahmoud ElSohly**.
- **Mr. Falgun Shah** (Medicinal Chemistry) and **Mr. John Bowling** (Pharmacognosy) were selected to receive the American Chemical Society’s Ole Miss Local Section Graduate Students Research Awards in the Pharmaceutical Sciences, which were presented at the ACS Annual Awards Banquet in April.
- **Ms. Amanda Waters** (Pharmacognosy) was selected to receive a 2011 National Science Foundation Graduate Research Fellowship Program (GRFP) Fellowship. Ms. Waters will receive a \$30,000 stipend for 2011-12 Fellowship Year.
- **Ms. Waters** also received The Robert A. Magarian Outstanding Podium Presentation Award at the 2011 MALTO Meeting in Houston, TX.

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