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9-28-2009

## Research News: 2009, no. 2

University of Mississippi. School of Pharmacy

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## *The University of Mississippi*

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*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:** September 28, 2009  
**SUBJECT:** Research News (#2)

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

1. **Dr. Mitchell Avery** (P.I.-Medicinal Chemistry), and **Dr. Stephen Cutler** (Co-P.I.-Medicinal Chemistry). Development and Testing of New Antimalarial Drugs - FY 2009-2010 (Centers for Disease Control and Prevention), \$200,000, August 8, 2008-July 31, 2010.
2. **Dr. Benjamin Banahan** (P.I.-Center for Pharmaceutical Marketing and Management/Research Institute for Pharmaceutical Sciences), **Dr. Yi Yang** (Co-P.I.-Pharmacy Administration), **Dr. Patrick Pace** (Co-P.I.- Center for Pharmaceutical Marketing and Management/Research Institute for Pharmaceutical Sciences), **Dr. John Bentley** (Co-P.I.-Pharmacy Administration), and **Dr. Donna West** (Co-P.I.-Pharmacy Administration). Using a Medicare Claims Data Repository to Evaluate Medication Utilization and Safety in the Elderly Population (Department of Health and Human Services/Health Resources and Services Administration), \$235,620, September 1, 2009-August 31, 2011.
3. **Dr. Alice Clark** (P.I.-National Center for Natural Products Research), and **Dr. Ameeta Agarwal** (Co-P.I.-National Center for Natural Products Research). New Drugs for Opportunistic Infections - FY 2009-2010 (National Institute of Allergy and Infectious Disease), \$361,649, July 1, 2009-June 30, 2010.
4. **Dr. Stephen Cutler** (P.I.-Medicinal Chemistry). Center for Research Excellence in Natural Products Neuroscience - Year 4 (National Center for Research Resources), \$1,969,436, July 1, 2009-June 30, 2010.
5. **Dr. Stephen Cutler** (P.I.-Medicinal Chemistry), and **Dr. Susan Manly** (Co-P.I.-National Center for Natural Products Research). Center for Research Excellence in Natural Products Neuroscience – Administrative Supplement (National Institutes of

- Health/National Center for Research Resources), \$584,617, September 14, 2009-September 13, 2011.
6. **Dr. Robert Doerksen** (P.I.-Medicinal Chemistry). Innovations through Computational Science-Bridge Funding (Mississippi State University/National Science Foundation), \$13,491, June 9, 2009-July 31, 2009.
  7. **Dr. Mark Hamann** (P.I.-Pharmacognosy). The Isolation and Characterization of Antimalarial Agents with Marine Micro-Organisms - Year 4 (Medicines for Malaria Venture), \$15,000, January 1, 2009-December 31, 2011.
  8. **Dr. Raymond Highsmith** (P.I.-National Institute for Undersea Science and Technology [NIUST]), **Dr. Marc Slattery** (Co-P.I.-Pharmacognosy), and **Dr. Carol Lutken** (Co-P.I.-MS Mineral Resources Institute). NIUST Tropical Ecosystem Science and Technology (U.S. Dept. of Commerce/National Oceanic and Atmospheric Administration), \$849,000, October 1, 2009-September 30, 2010.
  9. **Dr. Erin Holmes** (P.I.-Pharmacy Administration). Electronic Health Records Market Assessment in Mississippi (Louisiana Health Care Review, Inc.), \$15,000, July 1, 2009-August 14, 2009.
  10. **Dr. Ikhlas Khan** (P.I.- National Center for Natural Products Research), and **Dr. Larry Walker** (Co-P.I.-National Center for Natural Products Research). Discovery and Development of Natural Product-Based Insect Management Compounds for Medical, Veterinary and Urban Concern - Amendment 2 (U.S. Department of Agriculture), \$520,002, September 24, 2007-June 14, 2010.
  11. **Dr. Ikhlas Khan** (P.I.- National Center for Natural Products Research), and **Dr. Larry Walker** (Co-P.I.-National Center for Natural Products Research). Botanical Dietary Supplement Research (Food and Drug Administration), \$1,608,000, September 20, 2009-August 31, 2010.
  12. **Dr. Ikhlas Khan** (P.I.- National Center for Natural Products Research). Science Based Authentication of Dietary Supplements (Food and Drug Administration), \$552,000, July 1, 2009-June 30, 2010.
  13. **Dr. David Murray** (P.I.-Pharmacology). The Role of Protease Activated Receptor-2 (PAR-2) and Cyclo-oxygenase-2 (Cox-2) in Ventricular Remodeling (American Heart Association), \$132,000, July 1, 2009-June 30, 2011.
  14. **Dr. S. Narasimha Murthy** (P.I.-Pharmaceutics). Electropulsation Mediated Drug Therapy for Onychomycosis (National Institutes of Health), \$69,830, August 1, 2009-July 31, 2010.
  15. **Dr. Dale Nagle** (P.I.-Pharmacognosy), and **Dr. Yu-Dong Zhou** (Co-P.I.-Pharmacognosy). Anticancer Drug Discovery that Targets Tumor Hypoxia - Year 5 (National Institutes of Health/National Cancer Institute), \$280,987, July 1, 2009-May 31, 2010.
  16. **Dr. Michael Repka** (P.I.-Pharmaceutics), and **Dr. Soumyajit Majumdar** (Co-P.I.-Pharmaceutics). Transmucosal Intra-Oral Drug Delivery Systems for THC - Year 2 (ElSohly Laboratories, Inc./National Institutes of Health), \$207,803, June 1, 2009-May 31, 2010.
  17. **Dr. John Rimoldi** (P.I.-Medicinal Chemistry). Synthesis of HIV-1 Integrase Inhibitors (Panvirex, L.L.C.), \$33,540, July 1, 2009-October 31, 2009.
  18. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice). University of Mississippi Medical Center/University of Mississippi School of Pharmacy/Pharmacy Practice's

- Agreement - FY 2010-2014 (Department of Pediatrics), \$117,875, July 1, 2009-June 30, 2014.
19. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice). Delta Diabetes Project - FY 2008-2009 (University of Mississippi Medical Center), \$38,973, August 1, 2008-July 31, 2009.
  20. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice), and **Dr. Barbara Wells** (Co-P.I.-Dean's Office). Delta Pharmacy Patient Care Management Project (Delta Health Alliance/Health Resources and Services Administration), \$200,000 (revising budget from \$800,000 for a total of \$1,000,000), July 1, 2009-June 30, 2010.
  21. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice). PGY1 Community Pharmacy Residency Program (Biggs Drug Store), \$7,500, July 1, 2009-June 30, 2010.
  22. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice). UM School of Pharmacy/Pharmacy Practice/University of Mississippi Medical Center/Department of Medicine/Division of Infectious Diseases Agreement - FY 2009-2014 (University of Mississippi Medical Center), \$69,725, July 1, 2009-June 30, 2014.
  23. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice). University of Mississippi School of Pharmacy and Baptist Memorial Hospital-North Mississippi Agreement - FY 2009-2010 (Baptist Memorial Hospital-North Mississippi), \$56,250, August 19, 2009-August 18, 2010.
  24. **Dr. Leigh Ann Ross** (P.I.-Pharmacy Practice). University of Mississippi Medical Center/University of Mississippi School of Pharmacy/Dept. of Pharmacy Practice – Contract for Residency Program Support - FY 2009-2010 (University of Mississippi Medical Center), \$25,000, July 1, 2009-June 30, 2010.
  25. **Dr. James Sims** (P.I.-Pharmacognosy). Biosynthetic Routes to Drug Development for AIDS OI Mtb (National Institutes of Health/National Institute of Allergy and Infectious Diseases), \$45,218, September 11, 2009-September 10, 2012.
  26. **Dr. Robert Speth** (P.I.-Pharmacology). Brain Specific Non-AT1, Non-AT2 Angiotensin Binding Site (National Institutes of Health/National Heart, Lung and Blood Institute), \$223,150, July 1, 2009-June 30, 2010.
  27. **Dr. Babu Tekwani** (P.I.-National Center for Natural Products Research), **Dr. Muhammad Ilias** (Co-P.I.-National Center for Natural Products Research), and **Dr. Dhammika Nanayakkara** (Co-P.I.-National Center for Natural Products Research). Natural Product Leads for New Drug Discovery Against Leishmaniasis (U.S. Army Medical Research Acquisition Activity), \$1,132,768, August 1, 2009-August 31, 2012.
  28. Dr. Gregory Tschumper, Dr. Amal Dass, Dr. Nathan Hammer, Dr. Keith Hollis, Dr. Randy Wadkins (P.I.'s-Chemistry and Biochemistry), Dr. Yixin Chen (P.I.-Computer and Information Science), **Dr. Robert Doerksen** (P.I.-Medicinal Chemistry), and Dr. Maxine Harper (P.I.-Center for Educational Research and Evaluation). Modeling and Simulation of Complex Systems (Mississippi State University/National Science Foundation), \$792,655, September 1, 2009-August 31, 2010.
  29. **Dr. Larry Walker** (P.I.-National Center for Natural Products Research). Development of Natural Products from Plants and Microbes for Replacement of Synthetic Pesticides - Amendment 5 (U.S. Department of Agriculture/Agricultural Research Service), \$2,380,393, September 6, 2006-July 31, 2011.

30. **Dr. Barbara Wells** (P.I.- Dean's Office), and **Dr. Charles Hufford** (Co-P.I.- Dean's Office). National Center for Natural Products Research – Phase II (Department of Health and Human Services/Health Resources and Services Administration), \$941,490, September 1, 2008-September 30, 2013.
31. **Dr. Barbara Wells** (P.I.- Dean's Office), and **Dr. Leigh Ann Ross** (Co-P.I.- Pharmacy Practice). UM School of Pharmacy Instructional and Research Facility – Year 2 (Department of Health and Human Services/Health Resources and Services Administration), \$5,651,910, September 1, 2008-September 30, 2011.
32. **Dr. Donna West-Strum** (P.I.-Pharmacy Administration), and **Dr. John Bentley** (Co-P.I.-Pharmacy Administration). Baseline Evaluation of Science of Safety at U.S. Colleges of Pharmacy (Virginia Commonwealth University/American Association of Colleges of Pharmacy), \$21,000, January 1, 2009-September 30, 2009.
33. **Dr. Kristine Willett** (P.I.-Pharmacology). Research Experience Opportunity Program: Summer Research Opportunities for Undergraduates (Mississippi Functional Genomics Network/National Institutes of Health), \$1,000, May 14, 2009-August 15, 2009.
34. **Dr. Kristine Willett** (P.I.-Pharmacology/Environmental Toxicology Research Program). Fish Gill Toxicity (U.S. Army, Engineering Research and Development Center), \$2,500, July 1, 2009-September 30, 2009.
35. **Dr. Kristine Willett** (P.I.-Pharmacology), and **Dr. Marc Slattery** (Co-P.I.- Pharmacognosy). YES Analysis of Cruise Ship Effluent (Florida-Spectrum Environmental Services, Inc.), \$2,400, March 1, 2009-September 30, 2009.
36. **Dr. Kristine Willett** (P.I.-Pharmacology), and **Dr. Marc Slattery** (Co-P.I.- Pharmacognosy). YES Analysis of Cruise Ship Effluent (SGS North America, Inc.), \$4,500, February 1, 2009-August 31, 2009.
37. **Dr. Kristine Willett** (P.I.-Pharmacology). Roles of CYP1 & 19 in Fundulus Steroids & PAH Metabolism-Administrative Supplement (National Institutes of Health/National Institute of Environmental Health Sciences), \$86,219, September 6, 2009-August 31, 2010.
38. **Dr. Jordan Zjawiony** (P.I.-Pharmacognosy), and **Dr. Charles Burandt** (Co-P.I.- National Center for Natural Products Research). Chemistry and Pharmacology of Newly Emerging Psychoactive Plants (National Institutes of Health), \$71,584, May 1, 2009-April 30, 2011.

The following **PUBLICATIONS** have appeared:

1. S.A. Ahmed, S.I. Khalifa, and **Mark Hamann**, “Antiepileptic Ceramides from the Red Sea Sponge *Negombata corticata*”, *Journal of Natural Products*, 71, 513-515 (2008).
2. **Sai Prasad Boddu**, M.R. Yamsani, S. Potharaju, S. Veeraraghavan, S. Rajak, S. Kumar, **Bonnie Avery**, **Michael Repka**, and K. Varanasi, “Influence of grapefruit juice on the pharmacokinetics of diltiazem in Wistar rats upon single and multiple dosage regimens”, *Pharmazie*, 64, 525-531 (2009).
3. E.A. Bourassa, A.F. Sved, and **Robert Speth**, “Angiotensin modulation of rostral ventrolateral medulla (RVLM) in cardiovascular regulation”, *Molecular and Cellular Endocrinology*, 302, 167-175 (2009).

4. **John Bowling**, H.K. Pennaka, K. Ivey, S. Wahyuono, M. Kelly, R.F. Schinazi, F.A. Valeriote, D.E. Graves, and **Mark Hamann**, “Antiviral and Anticancer Optimization Studies of the DNA-binding Marine Natural Product Aaptamine”, *Chem Biol Drug Des*, 71, 205-215 (2008).
5. P. Carvalho, L.M. Kutrzeba, **Jordan Zjawiony**, and **Mitchell Avery**, “(2*S*,4*aR*,6*aR*,7*R*,9*S*,10*aS*,10*bR*)-7-Carboxy-2-(3-furyl)-6*a*,10*b*-dimethyl-4,10-dioxoperhydrobenzo[*f*]isochromen-9-yl acetate”, *Acta Crystallographica*, 65, 471-472 (2009).
6. **Suman Chandra**, **Hemant Lata**, **Ikhlas Khan** and **Mahmoud ElSohly**, “Photosynthetic response of *Cannabis sativa L.* to variations in photosynthetic photon flux densities, temperature and CO<sub>2</sub> conditions”, *Physiology and Molecular Biology of Plants*, 14, 299-306 (2008).
7. **Pankaj Daga**, and **Robert Doerksen**, “Stereo-electronic Properties of Spiroquinazolinones in Differential PDE7 Inhibitory Activity”, *Journal of Computational Chemistry*, 29, 1945-1954 (2008).
8. J.A. Diers, K.D. Ivey, **Abir El-Alfy**, J. Shaikh, J. Wang, **Anna Kochanowska**, J.F. Stoker, **Mark Hamann**, and R.R. Matsumoto, “Identification of antidepressant drug leads through the evaluation of marine natural products with neuropsychiatric pharmacophores”, *Pharmacology, Biochemistry and Behavior*, 89, 46-53 (2008).
9. **Yuanqing Ding**, **Xing-Cong Li**, and **Daneel Ferreira**, “Theoretical Calculation of Electronic Circular Dichroism of a Hexahydroxydiphenoyl-Containing Flavanone Glycoside”, *J. Nat. Prod.*, 72, 327-335 (2009).
10. M.S. Donia, **Bin Wang**, D.C. Dunbar, P.V. Desai, A. Patny, **Mitchell Avery**, and **Mark Hamann**, “Mollamides B and C, Cyclic Hexapeptides from the Indonesian Tunicate *Didemnum molle*”, *Journal of Natural Products*, 71, 941-945 (2008).
11. **Nurdan Duzgoren-Aydin**, “Health Effects of Atmospheric Particulates: A Medical Geology Perspective”, *Journal of Environmental Science and Health, Part C*, 26, 1-39 (2008).
12. **Nurdan Duzgoren-Aydin**, and A.L. Weiss, “Use and abuse of Pb-isotope fingerprinting technique and GIS mapping data to assess lead in environmental studies”, *Environmental Geochemistry and Health*, 30, 577-588 (2008).
13. **Nurdan Duzgoren-Aydin**, and A. Aydin, “Distribution of rare earth elements and oxyhydroxide phases within a weathered felsic igneous profile in Hong Kong”, *Journal of Asian Earth Sciences*, 34, 1-9 (2009).
14. **Ashley Ellis**, “OTC product: RESPeRATE blood pressure-lowering device”, *Pharmacy Today*, 16 (August 2009).
15. K.A. ElSayed, A.A. Khalil, M. Yousaf, **Guillermo Labadie**, G.M. Kumar, S.G. Franzblau, A.M.S. Mayer, **Mitchell Avery**, and **Mark Hamann**, “Semisynthetic Studies on the Manzamine Alkaloids”, *J. Nat. Prod.*, 71, 300-308 (2008).
16. H. Fan, **Jiangnan Peng**, **Mark Hamann**, and J.F. Hu, “Lamellarins and Related Pyrrole-Derived Alkaloids from Marine Organisms”, *Chem. Rev.*, 108, 264-287 (2008).
17. **Ahmed Galal**, **Waseem Gul**, **Desmond Slade**, **Samir Ross**, S. Feng, M.G. Hollingshead, M.C. Alley, G. Kaur, and **Mahmoud ElSohly**, “Synthesis and evaluation of dihydroartemisinin and dihydroartemisinin acetal dimers showing

- anticancer and antiprotozoal activity”, *Bioorganic & Medicinal Chemistry*, 17, 741-751 (2009).
18. T. Grkovic, **Yuanqing Ding**, **Xing-Cong Li**, V.L. Webb, **Daneel Ferreira**, and B.R. Copp, “Enantiomeric Discorhabdin Alkaloids and Establishment of Their Absolute Configurations Using Theoretical Calculations of Electronic Circular Dichroism Spectra”, *J. Org. Chem.*, 73, 9133-9136 (2008).
  19. **Mohamed Ibrahim**, A.G. Shilabin. S. Prasanna, **Melissa Jacob**, **Shabana Khan**, **Robert Doerksen**, and **Mark Hamann**, “2-N-Methyl modifications and SAR studies of manzamine A”, *Bioorganic & Medicinal Chemistry*, 16, 6702-6706 (2008).
  20. **Haidy Kamel**, Y.B. Kim, **John Rimoldi**, F.R. Fronczek, **Daneel Ferreira**, and **Marc Slattery**, “Scalarane Sesterterpenoids: Semisynthesis and Biological Activity”, *J. Nat. Prod.*, 72, 1492-1496 (2009).
  21. V.T. Karamyan, **Rama Gadepalli**, **John Rimoldi**, and **Robert Speth**, “Brain AT<sub>1</sub> Angiotensin Receptor Subtype Binding: Importance of Peptidase Inhibition for Identification of Angiotensin II as Its Endogenous Ligand”, *The Journal of Pharmacology and Experimental Therapeutics*, 331, 170-177 (2009).
  22. **Dion Kevin**, **Damaris Meujo**, and **Mark Hamann**, “Polyether ionophores: broad-spectrum and promising biologically active molecules for the control of drug-resistant bacteria and parasites”, *Expert Opinion on Drug Discovery*, 4, 109-146 (2009).
  23. **Jin-Ki Kim**, J. Anderson, H. Jun, **Michael Repka**, and **Seongbong Jo**, “Self-assembling peptide amphiphile-based nanofiber gel for bioresponsive cisplatin delivery”, *Mol Pharm*, 6, 978-985 (2009).
  24. **Anna Kochanowska**, K.V. Rao, S. Childress, **Abir El-Alfy**, R.R. Matsumoto, M. Kelly, G.S. Stewart, K.J. Sufka, and **Mark Hamann**, “Secondary Metabolites from Three Florida Sponges with Antidepressant Activity”, *J. Nat. Prod.*, 71, 186-189 (2008).
  25. L.M. Kutrzeba, **Daneel Ferreira**, and **Jordan Zjawiony**, “Salvinorins J from *Salvia divinorum*: Mutarotation in the Neoclerodane System”, *J. Nat. Prod.*, 72, 1361-1363 (2009).
  26. J.S. Kwon, I.K. Park, A.S. Cho, S.M. Shin, M.H. Hong, S.Y. Jeong, Y.S. Kim, J.J. Min, M.H. Jeong, W.J. Kim, **Seongbong Jo**, S.H. Pun, J.G. Cho, J.C. Park, J.C. Kang, and Y. Ahn, “Enhanced angiogenesis mediated by vascular endothelial growth factor plasmid-loaded thermo-responsive amphiphilic polymer in a rat myocardial infarction model”, *Journal of Controlled Release*, 138, 168-176 (2009).
  27. **Hemant Lata**, **Suman Chandra**, **Ikhlas Khan** and **Mahmoud ElSohly**, “Thidiazuron induced high frequency direct shoot organogenesis of *Cannabis sativa* L”, *In Vitro Cellular and Developmental Biology-Plant*, 45, 12-19 (2009).
  28. **Hemant Lata**, **Suman Chandra**, **Ikhlas Khan** and **Mahmoud ElSohly**, “Propagation through Alginate Encapsulation of Axillary Buds of *Cannabis sativa* L – An Important Medicinal Plant” *Physiology and Molecular Biology of Plants*, 15, 79-86 (2009).
  29. **Hemant Lata**, **Suman Chandra**, **Natascha Techen**, **Ikhlas Khan** and **Mahmoud ElSohly**, “Assessment of the Genetic Stability of Micropropagated Plants of *Cannabis sativa* by ISSR Markers”, *Planta Medica*, 75, 1-4 (2009).

30. **Hemant Lata, Cassia Mizuno, and Rita Moraes**, “The role of biotechnology in the production of the anticancer compound Podophyllotoxin”, *Methods in Molecular Biology*, 547, 387-402 (2009).
31. **Francisco León, Eman Habib, Jessica Adkins, Edward Furr, Christopher McCurdy, and Stephen Cutler**, “Phytochemical Characterization of the Leaves of *Mitragyna speciosa* Grown in USA”, *Natural Products Communications*, 4, 907-910 (2009).
32. A.O.W. Leung, **Nurdan Duzgoren-Aydin**, K.C. Cheung, and M.H. Wong, “Heavy Metals Concentrations of Surface Dust from e-Waste Recycling and Its Human Health Implications in Southeast China”, *Environ. Sci. Technol.*, 42, 2674-2680 (2008).
33. **Vamsi Madgula, Bharathi Avula, R.S. Pawar, Y.J. Shukla, Ikhlas Khan, Larry Walker, and Shabana Khan**, “Characterization of *in Vitro* Pharmacokinetic Properties of Hoodigogenin A from *Hoodia gordonii*”, *Planta Med*, 75, 1-8 (2009).
34. **Vamsi Madgula, Zulfiqar Ali, Troy Smillie, Ikhlas Khan, Larry Walker, and Shabana Khan**, “Alkaloids and Saponins as Cytochrome P450 Inhibitors from Blue Cohosh (*Caulophyllum thalictroides*) in an *in vitro* Assay”, *Planta Med*, 75, 329-332 (2009).
35. **Soumyajit Majumdar, Ketan Hippalgaonkar, and Ramesh Srirangam**, “Vitreol Kinetics of Quinidine in Rabbits in the Presence of Topically Coadministered P-Glycoprotein Substrates/Modulators”, *Drug Metabolism and Disposition*, 37, 1718-1722 (2009).
36. A.M.S. Mayer, A.D. Rodríguez, R.G.S. Berlinck, and **Mark Hamann**, “Marine pharmacology in 2005-6: Marine compounds with anthelmintic, antibacterial, anticoagulant, antifungal, anti-inflammatory, antimalarial, antiprotozoal, antituberculosis, and antiviral activities; affecting the cardiovascular, immune and nervous systems, and other miscellaneous mechanisms of action”, *Biochimica et Biophysica Acta*, 283-308 (2009).
37. M. Mendoza, D. Mills, **Hemant Lata, Suman Chandra, Mahmoud ElSohly**, and J. Almira, “Genetic Individualization of *Cannabis sativa* by an STR Multiplex”, *Analytical and Bioanalytical Chemistry*, 393, 719-726 (2009).
38. N.M. Mohamed, V. Rao, **Mark Hamann**, M. Kelly, and R.T. Hill, “Monitoring Bacterial Diversity of the Marine Sponge *Ircinia strobilina* upon Transfer into Aquaculture”, *Applied and Environmental Microbiology*, 4133-4143 (2008).
39. M.K. Na, **Damaris Meujo, Dion Kevin, Mark Hamann**, M. Anderson, and R.T. Hill, “A new antimalarial polyether from a marine *Streptomyces* sp. H668”, *Tetrahedron Letters*, 49, 6282-6285 (2008).
40. **Dale Nagle, and Yu-Dong Zhou**, “Marine natural products as inhibitors of hypoxic signaling in tumors”, *Phytochem Rev*, 8, 415-529 (2009).
41. R. Namgung, S. Nam, S.K. Kim, S. Son, K. Singha, J.S. Swon, Y. Ahn, M.H. Jeong, I.K. Park, **Vivekkumar Garripelli, and Sengbong Jo**, “An acid-labile temperature-responsive sol-gel reversible polymer for enhanced gene delivery to the myocardium and skeletal muscle cells”, *Biomaterials*, 30, 5225-5233 (2009).
42. S. Prasanna, and **Robert Doerksen**, “Topological Polar Surface Area: A Useful Descriptor in 2D-QSAR”, *Current Medicinal Chemistry*, 16, 431-448 (2009).



43. S. Prasanna, **Pankaj Daga**, A. Xie, and **Robert Doerksen**, “Glycogen synthase kinase-3 inhibition by 3-anilino-4-phenylmaleimides: insights from 3-D-QSAR and docking”, *J Comput Aided Mol Des*, 23, 113-127 (2009).
44. **Mohamed Radwan**, **Mahmoud ElSohly**, **Desmond Slade**, S.A. Ahmed, **Ikhlas Khan**, and **Samir Ross**, “Biologically Active Cannabinoids from High-Potency *Cannabis sativa*”, *J. Nat. Prod.*, 72, 906-911 (2009).
45. K.V. Rao, M.K. Na, J.C. Cook, **Jiangnan Peng**, R. Matsumoto, and **Mark Hamann**, “Kahalalides V-Y Isolated from a Hawaiian Collection of the Sacoglossan Mollusk *Elysia rufescens*”, *Journal of Natural Products*, 71, 772-778 (2008).
46. **Daniel Riche**, **Wes Pierce**, and **Travis King**, “Vitamin D and Cardiovascular Disease: A Second Look”, *Pharmacotherapy*, 29, 177-179 (September 2009).
47. **Daniel Riche**, H.E. East, and K.D. Riche, “Impact of sitagliptin on markers of beta-cell function: a meta-analysis”, *Am J Med Sci*, 337, 321-328 (May 2009).
48. **Daniel Riche**, **Deborah Minor**, **Amber Holdiness** and H.E. East, “An issue of dependence: implications from the Aliskiren in the Evaluation of Proteinuria in Diabetes (AVOID) trial”, *J Clin Hypertens (Greenwich)*, 11, 89-93 (February 2009).
49. **Samir Ross**, R. Rodríguez-Guzmán, **Mohamed Radwan**, **Melissa Jacob**, **Yuanqing Ding**, **Xing-Cong Li**, **Daneel Ferreira**, and **Susan Manly**, “Sorocenols G and H, Anti-MRSA Oxygen Heterocyclic Diels-Alder-Type Adducts from *Sorocea muriculata* Roots”, *J. Nat. Prod.*, 71, 1764-1767 (2008).
50. **Volodymyr Samoylenko**, **Melissa Jacob**, **Shabana Khan**, **Jianping Zhao**, **Babu Tekwani**, J.O. Midiwo, **Larry Walker**, and **Ilias Muhammad**, “Antimicrobial, Antiparasitic and Cytotoxic Spermine Alkaloids from *Albizia schimperiana*”, *Natural Product Communications*, 4, 791-796 (2009).
51. A.G. Shilabin, N. Kasanah, **Babu Tekwani**, and **Mark Hamann**, “Kinetic Studies and Bioactivity of Potential Manzamine Prodrugs”, *Journal of Natural Products*, 71, 1218-1221 (2008).
52. A.T. Slominski, M.A. Zmijewski, I. Semak, T. Sweatman, Z. Janjetovic, W. Li, **Jordan Zjawiony**, and R.C. Tuckey, “Sequential Metabolism of 7-Dehydrocholesterol to Steroidal 5,7-Dienes in Adrenal Glands and Its Biological Implication in the Skin”, *PLoS ONE*, 4 (February 2009).
53. **Robert Speth**, “Tribute – A life well-lived: Henry I. ‘Hank’ Yamamura”, *Life Sciences*, 84, 634-636 (2009).
54. R. Stanikunaite, **Mohamed Radwan**, J.M. Trappe, F. Fronczek, and **Samir Ross**, “Lanostane-Type Triterpenes from the Mushroom *Astraeus pteridis* with Antituberculosis Activity”, *Journal of Natural Products*, 71, 2077-2079 (2008).
55. R. Stanikunaite, **Shabana Khan**, J.M. Trappe, and **Samir Ross**, “Cyclooxygenase-2 Inhibitory and Antioxidant Compounds from the Truffle *Elaphomyces granulatus*”, *Phytotherapy Research*, 23, 575-578 (2009).
56. I.I. Tatli, F. Kong, X. Feng, G. Carter, K.V. Rao, and **Mark Hamann**, “7-Methyl-9-oxo-dec-7-eneoic acid from the Red Sea sponge *Ircinia sp*”, *Journal of Chemical Research*, 50-51 (2008).
57. **Barbara Wells**, J.T. DiPiro, T.L. Schwinghammer, and C. DiPiro, Pharmacotherapy Handbook, 7<sup>th</sup> ed. McGraw-Hill, New York, New York (2009).

58. A. Xie, S. Odde, S. Prasanna, and **Robert Doerksen**, "Imidazole-containing farnesyltransferase inhibitors: 3D quantitative structure-activity relationship and molecular docking", *J Comput Aided Mol Des*, 23, 431-448 (2009).
59. W.H. Xu, **Melissa Jacob**, **Ameeta Agarwal**, **Alice Clark**, Z.S. Liang, and **Xing-Cong Li**, "Verbesinosides A-F, 15,27-Cyclooleanane Saponins from the American Native Plant *Verbesina virginica*", *J. Nat. Prod.*, 72, 1022-1027 (2009).
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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 in 2009: 1

US Patents Pending: 29

Recent US Patents Granted: *none*

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

- Pharmacy Administration faculty selected: **Suvapun Bunniran** as the recipient of the 2009-2010 Outstanding Student Research Paper Award; and **Kyle Null** as the recipient of the 2009-2010 William E. Farlow Fellowship Award.
- **Dr. S. Narasimha Murthy** received a Global Indus Technovators Award from MIT's IBC for his ongoing study of electrically mediated, non-invasive technologies for drug delivery, diagnosis and treatment of various diseases. Dr. Murthy has developed several technologies to rapidly infuse pharmaceuticals across the skin and into the body.
- **Dr. Michael Repka** was an Invited Speaker at a workshop sponsored by Thermo Fisher Scientific, June 3-4, 2009, at Amgen, Thousand Oaks, CA. His topic was "Hot-Melt Extrusion of Polymer Blends and Sensitive Actives".
- **Dr. John Rimoldi** has been awarded the Chemists Travel Assistance Award by the Society of Environmental Toxicology and Chemistry (SETAC). The award will cover registration fees and lodging expenses for Dr. Rimoldi to attend the SETAC North America 30<sup>th</sup> Annual Meeting, set for November 19-23 in New Orleans. The award will also provide for up to three graduate students to attend the meeting at a reduced cost.
- **Dr. Samir Ross** was presented with the School of Pharmacy Researcher of the Year Award during the Faculty Retreat in August.

- The article, “Biologically Active Cannabinoids from High-Potency *Cannabis sativa*” - **Mohamed Radwan, Mahmoud ElSohly, Desmond Slade, S.A. Ahmed, Ikhlas Khan, and Samir Ross** - was one of the Ten Most-Accessed Articles from the *Journal of Natural Products* during April-June 2009.
- **Amir Wahba** was the recipient of the Robert A. Magarian Student Podium Presentation Award at the 2009 Medicinal Chemistry/Pharmacognosy MALTO Meeting.
- Recent Poster/Podium Presentations:
  - (a) **Sunil Battu, Z. Rahman, Soumyajit Majumdar, Waseem Gul, Mahmoud ElSohly, and Michael Repka**, “Evaluation of a Novel  $\Delta^9$ -Tetrahydrocannabinol Prodrug, ELI-UNI-88-4”, *Annual Neuroscience and Behavior Research Day*, The University of Mississippi School of Medicine, Jackson, MS, 2008 (Poster).
  - (b) **Sunil Battu, Z. Rahman, Soumyajit Majumdar, Waseem Gul, Mahmoud ElSohly, and Michael Repka**, “Physico-Chemical Characterization of a Novel  $\Delta^9$ -Tetrahydrocannabinol Prodrug,  $\Delta^9$ -The Valinate, Southern Regional Discussion Group”, *PharmForum*, The University of Mississippi, Oxford, MS, May 2009 (Podium).
  - (c) **Sunil Battu, Noorullah Mohammed, Weibin Deng, and Michael Repka**, “Influence of Extruder Type on Content Uniformity and Effect of a Processing Aid on Drug Release of Hot-Melt Extruded Polyethylene Oxide Films”, *PharmForum*, The University of Mississippi, Oxford, MS, May 2009 (Poster).
  - (d) **Weibin Deng, Abhilasha Singh, Sunil Battu, Noorullah Mohammed, Seongbong Jo, and Michael Repka**, “Bioadhesive Properties of Hot-Melt Extruded Films Containing Lidocaine HCl, Metformin HCl and Prochlorperazine Maleate”, *PharmForum*, The University of Mississippi, Oxford, MS, May 2009 (Poster).
  - (e) **Jiannan Lu, J. Zhou, and Michael Repka**, “Preparation and Characterization of Bovine Serum Albumin-loaded Chitosan Self-assembled Nanomicelles”, *PharmForum*, The University of Mississippi, Oxford, MS, May 2009 (Poster).
  - (f) **Abhilasha Singh, Weibin Deng, Sunil Battu, Noorullah Mohammed, Seongbong Jo, and Michael Repka**, “Influence of Drug and Drug Load on the Mechanical Properties of Hot-Melt Extruded Polyethylene Oxide Films”, *PharmForum*, The University of Mississippi, Oxford, MS, May 2009 (Poster).

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