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University of Mississippi. School of Pharmacy, "Research News: 2006, no. 1" (2006). *Research News (2000-2014)*. 19.

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The University of Mississippi

Interoffice Memorandum
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TO: All School of Pharmacy Personnel

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

DATE: June 6, 2006

SUBJECT: Research News (#1)

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

1. **Dr. Joseph Byrd** (P.I. – Pharmacy Practice). University of Mississippi School of Pharmacy Professional Agreement (Rehabilitation Centers, Inc. d/b/a Millcreek), \$38,062, January 1, 2006-December 31, 2006.
2. **Dr. Joseph Byrd** (P.I. – Pharmacy Practice). University of Mississippi School of Pharmacy Professional Agreement (Mississippi State Hospital), \$24,000, May 1, 2006-April 30, 2007.
3. **Dr. Joseph Byrd** (P.I. – Pharmacy Practice). Contract for Residency Training Program Support, 2006 (University of Mississippi Medical Center), \$25,000, July 1, 2006-June 30, 2007.
4. **Dr. Alice Clark** (P.I. – ORSP/Pharmacognosy); Dr. Gregory Tschumper, Dr. Stephen Davis, Dr. Jason Ritchie and Dr. Randy Watkins (Co-P.I.'s – Chemistry); **Dr. Robert Doerksen** (Co-P.I. – Medicinal Chemistry); Dr. Peter Sukanek (Co-P.I. – Chemical Engineering); and Dr. Amy Wells (Co-P.I. – Leadership and Counselor Education). Innovations Through Computational Sciences (Mississippi State University/National Science Foundation), \$356,250, May 1, 2006-April 30, 2007.
5. **Dr. John Cleary** (P.I. – Pharmacy Practice). Differential Gene Expression with Micafungin (Astellas Pharma US, Inc.), \$17,400, January 23, 2006-December 31, 2007.
6. **Dr. John Cleary** (P.I. – Pharmacy Practice). Pharmaceutical Company Support (Focu Bio-Inova), \$860, October 20, 2005-September 30, 2012.
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 (National Institute on Drug Abuse/NIH), \$1,134,173, March 16, 2006-March 15, 2007.
8. **Dr. Daneel Ferreira** (P.I. – Pharmacognosy). Pre-Clinical Research Equipment (Stewart and Lynda Resnick Revocable Trust), \$23,110, April 1, 2006-March 31, 2007.
9. **Dr. Deborah Gochfeld** (P.I.– NIUST/NCNPR) and **Dr. Jesse Miller** (Co-P.I. – NIUST/Pharmacognosy). Chemical Mechanisms of Disease Resistance in Hawaiian Corals (The Research Corporation of the University of Hawaii/NOAA), \$31,288, October 1, 2005-December 31, 2006.
10. **Dr. Mark Hamann** (P.I. – Pharmacognosy). Spectroscopic Analysis of Natural Products for Confirmation of Chemical Structure (Novascreen Biosciences Corp.), \$250, October 1, 2005-September 30, 2006.
11. **Dr. Mark Hamann** (P.I. – Pharmacognosy). Production of Manzamine A and Semisynthetic/Synthetic Derivatives for Biological Evaluation (Novartis Pharma), \$8,000, October 1, 2005-September 30, 2006.

12. **Dr. Mark Hamann** (P.I. – Pharmacognosy). Production of Manzamine A and Semisynthetic/Synthetic Derivatives for Biological Evaluation (Novartis Pharma), \$9,965, October 1, 2005-September 30, 2006.
13. **Dr. Mark Hamann** (P.I. – Pharmacognosy), **Dr. Larry Walker** (Co-P.I. – NCNPR) and **Dr. Mitch Avery** (Co-PI – Medicinal Chemistry). Anti-AIDS Agents from Marine Organisms (National Institute of Allergy and Infectious Diseases) \$346,497, June 1, 2006-May 31, 2007.
14. **Dr. Ikhlas Khan** (P.I. – NCNPR), **Dr. Troy Smillie** (Co-P.I. – NCNPR) and **Dr. Shabana Khan** (Co-P.I. – NCNPR). Identification of Antiviral Compounds from Plants (Stephen F. Austin State University/Centers for Disease Control), \$150,000, August 1, 2005-July 31, 2006.
15. **Dr. Somyajit Majumdar** (P.I. – Pharmaceutics). Oral Absorption of Hesperidin (Next Pharmaceuticals, Inc.), \$2,500, March 27, 2006-April 26, 2006.
16. **Dr. Rae Matsumoto** (P.I. – Pharmacology). Cocaine, Sigma Receptors and Fra-2 (National Institute on Drug Abuse), \$175,771, March 1, 2006-February 28, 2007.
17. **Dr. David McCaffrey** (P.I. – RIPS/Pharmaceutical Marketing and Management Research Program) and Dr. Alicia Bouldin (P.I. – RIPS/Pharmaceutical Marketing and Management Research Program). Mississippi Pharmacist Compensation Survey (Mississippi Pharmacy Association), \$3,000, May 15, 2006-May 14, 2008.
18. **Dr. Dale Nagle** (P.I. – Pharmacognosy) and **Dr. Yu-Dong Zhou** (Co-P.I. – Pharmacognosy). Anticancer Drug Discovery that Targets Tumor Hypoxia (National Cancer Institute), \$258,535, May 1, 2006-April 30, 2007.
19. **Dr. David Pasco** (P.I. – NCNPR) and **Dr. Ikhlas Khan** (P.I. – NCNPR). Dominican Herbal Medicine: Plants Used for Inflammation (The New York Botanical Garden/NIH), \$115,000, February 1, 2006-July 31, 2007.
20. **Dr. Ziaeddin Shariat-Madar** (P.I. – Pharmacology). Plasma Kallikrein-Kinin Systems (KKS) Regulation of Endothelial Function (Am. Society of Hematology), \$4,000, June 1, 2006-Dec. 31, 2006.
21. **Dr. Ziaeddin Shariat-Madar** (P.I. – Pharmacology). Prolylcarboxypeptidase Activates Plasma Prekallikrein on Endothelial Cells (American Heart Association), \$65,000, January 1, 2006-December 31, 2006. (Transfer of Year 4 from University of Michigan)
22. **Dr. Noel Wilkin** (P.I. – Pharmacy Administration) and **Dr. Yi Yang** (Co-P.I. – Pharmacy Administration). End-Stage Renal Disease (ESRD) Medications Use and Costs in the Outpatient Setting (NABI Biopharmaceuticals), \$15,000, May 1, 2006-April 30, 2007.
23. **Dr. Noel Wilkin** (P.I. – Pharmacy Administration). Graduate Student Support (Roger Green and Associates), \$4,000, May 1, 2006-June 30, 2006.
24. **Dr. Kristine Willett** (P.I. – Pharmacology). Roles of CYP1 and 19 in Fundulus Steroids and PAH Metabolism (Natl. Institute of Environmental Health Sciences), \$231,382, May 1, 2006-April 30, 2007.

The following **PUBLICATIONS** have appeared:

1. **Sridevi Ankisetty, Hala ElSohly, Xing-Cong Li, Shabana Khan, Babu Tekwani, Troy Smillie and Larry Walker**, “Aromatic Constituents of *Uvaria grandiflora*”, *Journal of Natural Products*, 69, 692-694 (2006).
2. K. Bugarith, T.T. Dinh, A.J. Li, **Robert Speth** and S. Ritter, “Basomedial Hypothalamic Injections of Neuropeptide Y Conjugated to Saporin Selectively Disrupt Hypothalamic Controls of Food Intake”, *Endocrinology*, 146, 1179-1191 (2005).
3. **Amit Chaudhary** and **Kristine Willett**, “Inhibition of Human Cytochrome CYP1 Enzymes by Flavonoids of St. John’s Wort”, *Toxicology*, 217, 194-205 (2006).
4. **Sreekhhar Cheboyina, J. O’Haver and Christy Wyandt**, “A Mathematical Model to Predict the Size of the Pellets Formed in Freeze Pelletization Techniques: Parameters Affecting Pellet Size”, *Journal of Pharmaceutical Sciences*, 95, 167-180 (2006).
5. Y.W. Choi, S. Takamatsu, **Shabana Khan**, P.V. Srinivas, **Daneel Ferreira, Jianping Zhao and Ikhlas Khan**, “Schisandrene, a Dibenzocyclooctadiene Lignan from *Schisandra chinensis*: Structure–Antioxidant Activity Relationships of Dibenzocyclooctadiene Lignans”, *Journal of Natural Products*, 69, 356-359 (2006).
6. **Daneel Ferreira, Desmond Slade and Johannes Marias**, “Flavans and Proanthocyanidins”, Flavonoids: Chemistry, Biochemistry and Applications, O.M. Andersen and K.R. Markham (Eds), CRC Publishers, London, 553-616 (2005).

7. **Daneel Ferreira, Desmond Slade and Johannes Marias**, “Bi-, Tri-, Tetra-, Penta- and Hexaflavonoids”, Flavanoids: Chemistry, Biochemistry and Applications, O.M. Andersen and K.R. Markham (Eds), CRC Publishers, London, 1101-1128 (2005).
8. M.J. Glass, J. Huang, **Robert Speth**, C. Iadecola and V.M. Pickle, “Angiotensin II AT-1A Receptor Immunolabeling in Rat Medial Nucleus Tractus Solitarius Neurons: Subcellular Targeting and Relationships with Catecholamines”, *Neuroscience*, 130, 713-723 (2005).
9. R. Gormann, M. Kaloga, **Daneel Ferreira, Jannie Marais** and H. Kolodziej, “Newbouldiosides A–C, Phenylethanoid Glycosides from the Stem Bark of *Newbouldia laevis*”, *Phytochemistry*, 67, 805-811 (2006).
10. **Wasala H.M.W. Herath, Julie Mikell, Amber Hale, Daneel Ferreira and Ikhlas Khan**, “Microbial Metabolism. Part 6. ¹ Metabolites of 3- and 7-Hydroxyflavones”, *Chem. Pharm. Bull.*, 54, 320-324 (2006).
11. S.S. Hong, D.C. Moon, S.I. Lee, S.A. Bavadekar, P.N. Patil, S.G. Lalchandani, **Dennis Feller** and D.D. Miller, “Bioisosteric Phentolamine Analogs as Potent Alpha-Adrenergic Antagonists”, *Bioorganic and Medicinal Chemistry Letters*, 15, 4691-4695 (2005).
12. J.F. Hu, **Jiangnan Peng**, A.B. Kazi, M. Kelly and **Mark Hamann**, “Bromopyrrole Alkaloids from the Jamaican Sponge *Didiscus oxeata*”, *Journal of Chemical Research*, 427-428 (2005).
13. **Noer Kasanah and Mark Hamann**, “SPK-843 Aparts/Kaken”, *Current Opinion in Investigational Drugs*, 6, 845-853 (2005).
14. **Xing-Cong Li, Hala ElSohly, Larry Walker and Alice Clark**, “Phenolic Glycosides from *Potalia amara*”, *Planta Medica*, 71, 977-979 (2005).
15. **Xing-Cong Li, Melissa Jacob, Yuanqing Ding, Ameeta Agarwal, Troy Smillie, Shabana Khan, Dale Nagle, Daneel Ferreira and Alice Clark**, “Capisterones A and B, which Enhance Fluconazole Activity in *Saccharomyces cerevisiae*, from the Marine Green Alga *Penicillus capitatus*”, *Journal of Natural Products*, 69, 542-546 (2006).
16. **Johannes Marias**, B. Deavours, R.A. Dixon and **Daneel Ferreira**, “The Stereochemistry of Flavonoids”, The Science of Flavanoids, E. Grotewold (Ed), Springer, 1-46 (2005).
17. A.M.S. Mayer and **Mark Hamann**, “Marine Pharmacology in 2001-2002: Marine Compounds with Anthelmintic, Antibacterial, Anticoagulant, Antidiabetic, Antifungal, Anti-inflammatory, Antimalarial, Antiplatelet, Antiprotozoal, Antituberculosis, and Antiviral Activities; Affecting the Cardiovascular, Immune and Nervous Systems and Other Miscellaneous Mechanisms of Action”, *Comparative Biochemistry and Physiology*, Part C 140, 265-286 (2005).
18. Z.H. Mbwambo, M.C. Kapingu, M.J. Moshi, F. Machumi, S. Apers, P. Cos, **Daneel Ferreira, Jannie Marais**, D.V. Berghe, L. Maes, A. Vlietinck, and L. Pieters, “Antiparasitic Activity of Some Xanthenes and Biflavonoids from the Root Bark of *Garcinia livingstonei*”, *J. of Nat. Pro.*, 69, 369-372 (2006).
19. **Christopher McCurdy** and S.S. Schully, “Analgesic Substances Derived from Natural Products (Natureceuticals)”, *Life Sciences*, 78, 476-484 (2005).
20. **Christopher McCurdy**, K.J. Sufka, **Grant Smith**, J.E. Warnick and **Marcelo Nieto**, “Antinociceptive Profile of Salvinorin A, A Structurally Unique Kappa Opioid Receptor Agonist”, *Pharmacology Biochemistry and Behavior*, 83, 109-113, Web Published (2006).
21. F.D. Mora, D.K. Jones, **Prashant Desai, Akshay Patny, Mitchell Avery, Dennis Feller, Troy Smillie, Yu-Dong Zhou and Dale Nagle**, “Bioassay for the Identification of Natural Product-Based Activators of Peroxisome Proliferator-Activated Receptor- γ (PPAR γ): The Marine Sponge Metabolite Psammaplin A Activates PPAR γ and Induces Apoptosis in Human Breast Tumor Cells”, *Journal of Natural Products*, 69, 547-552 (2006).
22. **Dale Nagle and Yu-Dong Zhou**, “Natural Product-Based Inhibitors of Hypoxia-Inducible Factor-1 (HIF-1)”, *Current Drug Topics*, 7, 355-369 (2006).
23. J.O. Ojwang, **Yan-Hong Wang**, P.R. Wyde, **Nikolaus Fischer**, W. Schuehly, J.R. Appleman, S. Hinds and C.D. Shimasaki, “A Novel Inhibitor of Respiratory Syncytial Virus Isolated from Ethnobotanicals”, *Antiviral Research*, 68, 163-172 (2005).
24. **Igor Parshikov**, B. Miriyala, **Kannoth Muraleedharan, Mitchell Avery and John Williamson**, “Microbial Transformation of Artemisinin to 5-Hydroxyartemisinin by *Eurotium amstelodami* and *Aspergillus niger*”, *Journal of Industrial Microbiology & Biotechnology*, Online First DOI: 10.1007/s10295-005-0071-2 (2006).

25. **Igor Parshikov**, B. Miriyala, **Kannoth Muraleedharan**, A. Illendula, **Mitchell Avery** and **John Williamson**, "Biocatalysis of the Anti-Malarial Artemisinin by *Mucor ramannianus* Strains", *Pharmaceutical Biology*, 43, 579-582 (2005).
26. **Michael Repka**, **Mahmoud ElSohly**, **Manish Munjal** and **Samir Ross**, "Temperature Stability and Bioadhesive Properties of Δ^9 -Tetrahydrocannabinol Incorporated Hydroxypropylcellulose Polymer Matrix Systems", *Drug Development and Industrial Pharmacy*, 32, 21-32 (2006).
27. **Amit Shah**, **Bonnie Avery** and **Christy Wyandt**, "Content Analysis and Stability Evaluation of Selected Commercial Preparations of St. John's Wort", *Drug Development and Industrial Pharmacy*, 31, 907-916 (2005).
28. **Robert Speth**, K.H. Kim, T.S. Elton and S. Simasko, "Sarcosine, Glycine Angiotensin II is a Functional AT₁ Angiotensin Receptor Antagonist", *Endocrine*, 26, 83-87 (2005).
29. R.C. Swamy, O. Kunert, W. Schuhly, F. Bucar, **Daneel Ferreira**, V.S. Rani, B.R. Kumar and A.V.N.A. Rao, "Structurally Unique Biflavonoids from *Selaginella chrysocaulos* and *Selaginella bryopteris*", *Chemistry & Biodiversity*, 3, 405-413 (2006).
30. **Xueqing Wang**, E. Williams, M.L. Haasch and **Asok Dasmahapatra**, "Japanese Medaka (*Oryzias latipes*): Development Model for the Study of Alcohol Teratology", *Birth Defects Research (Part B)*, 77, 29-39 (2006).
31. W.L. Wilson, B.P. Roques, C.L. Cortes, **Robert Speth**, J.W. Harding and J.W. Wright, "Roles of Brain Angiotensins II and III in Thirst and Sodium Appetite", *Brain Research*, 1060, 108-117 (2005).
32. C.R. Yang, Y. Zhang, **Melissa Jacob**, **Shabana Khan**, Y.J. Zhang and **Xing-Cong Li**, "Antifungal Activity of C-27 Steroidal Saponins", *Antimicrobial Agents and Chemotherapy*, 50, 1710-1714 (2006).
33. S. Yous, V. Wallez, M. Belloir, D.H. Caignard, **Christopher McCurdy** and J.H. Poupaert, "Novel 2(3H)-Benzothiazolones as Highly Potent and Selective Sigma-1 Receptor Ligands", *Med. Chem. Res.*, 14:3, 158-168 (2005).

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.)

Invention Disclosures Filed in FY2005-2006: 5
 Patent Applications Pending: 34
 Recent Patents Granted: 2

- *Novel Selective Algaecides for Control of Cyanochloronta*, U.S. Patent # 6,949,250. **Nanayakkara, Dhammika; Schrader, Kevin.**
- *Synthesis of Epothilones and Related Analogs*, U. S. Patent # 6,989,450. **Avery, Mitchell.**

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

- The 2006 Graduate Student Achievement Awards in Pharmacy were presented to: **Erin Holmes** and **Akshay Patny**. Ms. Holmes is a Pharmacy Administration Ph.D. candidate (Advisor is **Dr. Dewey Garner**) and Mr. Patny is a Medicinal Chemistry Ph.D. candidate (Advisor is **Dr. Mitch Avery**).
- **Dr. Ikhlas Khan** was selected as a member of the Expert Advisory Committee (EAC) for Natural Health Products. The Natural Health Products Directorate (NHPD) is the official regulator of natural health products in Canada. The Advisory Committee "provides the Director General of the Directorate with expert advice on issues related to the safety, quality and efficacy of natural health products. The EAC includes members from the professional and scientific communities. Questions referred to the EAC from NHPD may be from a broad range of issues, but focus on scientific areas where detailed or difficult evaluation is required." Members of the Committee are appointed for a two-year term.
- The University of Mississippi Chapter of Sigma Xi, the Scientific Research Society, hosted a Student Research Poster Symposium in April 2006. **Sridhar Thumma** a Pharmaceutics graduate student was awarded the Best Presentation in Chemical Sciences III for his poster "Formulation of a Delta-9-THC Prodrug Utilizing PEO Matrices". Mr. Thumma is working on a Ph.D. degree under the direction of **Dr. Michael Repka**.
- Two of the Integrative Graduate Education and Research Traineeship (IGERT) teams made it into the top six finalists in the National FedEx Institute of Technology Business Plan Competition. One of the teams

(AbliTech) was awarded the second runner up position and received a cash prize of \$2,500. Participants of IGERT are centered in the **Department of Medicinal Chemistry** at the University of Mississippi and the School of Polymers and High Performance Materials at the University of Southern Mississippi.

- **Dr. John Williamson** was awarded for “Dedication and Commitment in Graduate Student Recruitment” at the Alliance for Graduate Education in Mississippi (AGEM) Winter Symposium, January 2006 in Hattiesburg, Mississippi. **Dr. Williamson** also participated in recent Review Panels: NIH-NCI SBIR Special Emphasis Group (March 2006); NIH-NCI/NIAID Countermeasures to Nuclear Radiation Terrorism (June 2005); and NIH-NCI National Cooperative Drug Discovery Groups for Cancer (October 2004).
- **Dr. Mark Hamann** was selected to become a member of the Biochimica et Biophysica Acta (BBA) General Subjects editorial board effective July 1, 2006.

Please continue to send me important research and graduate information so that I might share it with your faculty colleagues. **THIS INFORMATION IS NOW BEING POSTED ON THE SCHOOL OF PHARMACY WEB PAGE (www.pharmacy.olemiss.edu)!** Thank you.

cc: Ms. Dabney Weems
Dr. Robin Buchannon, Office of Research