



The University of Mississippi

Interoffice Memorandum

**SCHOOL OF PHARMACY
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TO: All School of Pharmacy Personnel

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

DATE: April 23, 2004

SUBJECT: Research News (#-1)

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

1. **Dr. Joseph Byrd** (P.I. – Pharmacy Practice) – Psychopharmacological Services Agreement: Dr. Brian Crabtree (Mississippi State Hospital), \$24,000.00 – May 1, 2004-April 30, 2005.
2. **Dr. Alice Clark** (P.I. – RIPS/NCNPR) and **Dr. Ameeta Agarwal** (Co-P.I. – RIPS/NCNPR) – New Drugs for Opportunistic Infections (National Institutes of Health/National Institute of Allergy and Infectious Diseases), \$287,000.00.
3. **Dr. Mahmoud ElSohly** (P.I. – RIPS/NCNPR) and **Dr. Samir Ross** (Co-P.I. – RIPS/NCNPR) – Production, Analysis and Distribution of Cannabis and Marijuana Cigarettes (National Institute on Drug Abuse), \$876,162.00 – December 1, 2003-November 30, 2004.
4. **Dr. Rahul Ganguly** (P.I. – Pharmacy Administration) – An Evaluation of the Effects of a Prior Authorization Requirement for Atypical Antipsychotic Medications in the Georgia Medicaid Program (The University of Georgia/Boston Health Economics), \$7,175.00 – November 1, 2003-March 31, 2004.
5. **Dr. Mark Hamann** (P.I. – Pharmacognosy) – AntiAIDS Agents from Marine Organisms (National Institutes of Health/National Institute of Allergy and Infectious Diseases), \$354,835.00 – June 1, 2004-May 31, 2005.
6. **Dr. Melissa Jacob** (P.I. – RIPS/NCNPR) – Anti-Fungal Testing of New Drugs (Florida Agricultural & Mechanical University/NIH), \$19,295.00 – September 1, 2003-May 31, 2004.
7. **Dr. David McCaffrey** (P.I. – RIPS/ECHR/PMMP) and **Dr. Alicia Bouldin** (Co-P.I. - Pharmacy Administration) – Expectations of the American Association of Colleges of Pharmacy: An Investigation of Members, Nonmembers and CEO Deans (American Association of Colleges of Pharmacy), \$14,521.20.
8. **Dr. David Pasco** (P.I. – RIPS/NCNPR) – Reporter Gene Assay: Screening for Human Aromatase Modulators (KAO Corporation), \$30,000.00 – February 1, 2004-January 31, 2005.
9. **Dr. David Pasco** (P.I. – RIPS/NCNPR) – Immulina Mouse Studies (Nordic Phytopharma), \$4,400.00 – February 1, 2004-January 31, 2005.
10. **Dr. Michael A. Repka** (P.I. – Pharmaceutics) and **Dr. Steven Stodghill** (Co-P.I.-Pharmaceutics) – Antifungal Denture Adhesive Film for Oral Candidiasis (NIH/NIDCR SBIR grant through Mikkur, Inc.), \$39,240.00 – April 2004-April 2005.
11. **Dr. Marc Slattery** (P.I. – Pharmacognosy) – Hybrid Soft Coral Antimicrobial Resistance: Combinatorial Chemistry & Gene Expression (Mississippi-Alabama Sea Grant Consortium), \$10,000.00 – September 1, 2003-August 31, 2004.
12. **Dr. Marc Slattery** (P.I. – Pharmacognosy) – Chemical Mixtures: Consequences of WNV Eradication on Water Quality (Mississippi State University/United States Geological Survey), \$12,380.00 – March 1, 2003-February 28, 2006.

13. **Dr. Kristine Willett** (P.I. – Pharmacology) – Screening of Environmental Contaminants Detected in Mississippi Sediments as Inducers and/or Inhibitors of CYP1B1 Expression in Channel Catfish (Mississippi State University/United States Geological Survey), \$12,380.00 – March 1, 2003-February 28, 2004.
14. **Dr. John Williamson** (P.I. – Medicinal Chemistry), **Dr. Mitchell Avery** (Co-P.I. – Medicinal Chemistry), **Dr. Ronald Borne** (Co-P.I. – Medicinal Chemistry), **Dr. Christopher McCurdy** (Co-P.I. – Medicinal Chemistry) and **Dr. John Rimoldi** (Co-P.I. – Medicinal Chemistry) – IGERT – Entrepreneurship at the Interface of Polymer Science and Medicinal Chemistry (University of Southern Mississippi/National Science Foundation), \$294,760.00 – September 2003-August 2004.
15. **Dr. John Williamson** (P.I. – Medicinal Chemistry) – UM Biomedical Research Internship Program (National Institute of General Medical Sciences), \$201,171.00 – February 1, 2004-January 31, 2005.
16. **Dr. Jordan Zjawiony** (P.I. – Pharmacognosy) – Semisynthesis of Salvinorin A Derivatives and Analogs for K-Opioid Receptor and Related Studies (Case Western Reserve University/National Institutes of Health), \$75,000.00 – September 30, 2003-June 30, 2004.

The following **PUBLICATIONS** have appeared:

1. M.R. Andrus, K.W. Kelley, **Lisa M. Murphey** and K.C. Herndon – “A Comparison of Diabetes Care in Rural and Urban Medical Clinics in Alabama”, *Journal of Community Health*, **29**, pp. 29-44, 2004.
2. R. Barnes and **Robert C. Speth** – “I-Angiotensin I Binding in the Rat Forebrain”, *Proc. West. Pharmacol. Soc.*, **46**, pp. 64-67, 2003.
3. L. Bennie, J. Coetzee, E. Malan, **Desmond Slade**, **Jannie P.J. Marais** and **Daneel Ferreira** – “Trimeric proteracacinidins and a (6 → 6)-bis-leucoteracacinidin from *Acacia galpinii* and *Acacia caffra*”, *Phytochemistry*, **65**, pp. 215-220, 2004.
4. T.E. Brown, J.W. Wright and **Robert C. Speth** – “Phospholipase C Inhibitor U73122 Attenuates the Dipsogenic Response Induced by Angiotensin II”, *Proc. West. Pharmacol. Soc.*, **46**, pp. 61-63, 2003.
5. C. Chavkin, S. Sud, W. Jin, **D. Jeremy Stewart**, **Jordan K. Zjawiony**, D.J. Siebert, B.A. Toth, S.J. Hufeisen and B.L. Roth – “Salvinorin A, an Active Component of the Hallucinogenic Sage *Salvia divinorum* Is a Highly Efficacious μ -Opioid Receptor Agonist: Structural and Functional Considerations”, *The Journal of Pharmacology and Experimental Therapeutics*, **308**, pp. 1197-1203, 2004.
6. **Rooha G. Contractor**, C.M. Foran, S. Li and **Kristine L. Willett** – “Evidence of Gender- and Tissue-Specific Promoter Methylation and the Potential for Ethinylestradiol-Induced Changes in Japanese Medaka (*Oryzias latipes*) Estrogen Receptor and Aromatase Genes”, *Journal of Toxicology and Environmental Health*, **67**, pp. 1-22, 2004.
7. **Hesham T. Fahmy**, S.I. Khalifa, T. Konoshima and **Jordan K. Zjawiony** – “An Improved Synthesis of 7,8-Epoxy-1,3,11-cembratriene-15R(), 16-diol, a Cembranoid of Marine Origin with a Potent Cancer Chemopreventive Activity”, *Marine Drugs*, **1**, pp. 1-7, 2004.
8. **Daneel Ferreira**, **Jannie P. J. Marais**, **Desmond Slade** and **Larry A. Walker** – “Circular Dichroic Properties of Flavan-3,4-diols”, *Journal of Natural Products*, **67**, pp. 174-178, 2004.
9. **Mark T. Hamann** – “Enhancing Marine Natural Product Structural Diversity and Bioactivity through Semisynthesis and Biocatalysis”, *Current Pharmaceutical Design*, **9**, pp. 879-889, 2003.
10. **Jin-Feng Hu**, **Mark T. Hamann**, R. Hill and M. Kelly – “The Manzamine Alkaloids”, *The Alkaloids*, **60**, Chapter 4, pp. 207-285, 2003.
11. J. Huang, Y. Hara, J. Anrather, **Robert C. Speth**, C. Iadecola and V.M. Pickel – “Angiotensin II Subtype 1A (AT1A) Receptors in the Rat Sensory Vagal Complex: Subcellular Localization and Association with Endogenous Angiotensin”, *Neuroscience*, **122**, pp. 21-36, 2003.
12. **Melissa R. Jacob**, **Chowdhury F. Hossain**, **Kaleem A. Mohammed**, **Troy J. Smillie**, **Alice M. Clark**, **Larry A. Walker** and **Dale G. Nagle** – “Reversal of Fluconazole Resistance in Multidrug Efflux-Resistant Fungi by the *Dysidea arenaria* Sponge Sterol 9 α ,11 β -Epoxycholest-7-ene-3 α ,5 β ,6 β ,19-tetrol 6-Acetate”, *Journal of Natural Products*, **66**, pp. 1618-1622, 2003.
13. E. Joubert, P. Winterton, T.J. Britz and **Daneel Ferreira** – “Superoxide anion and \cdot -diphenyl- π -picrylhydrazyl radical scavenging capacity of rooibos (*Aspalathus linearis*) aqueous extracts, crude phenolic fractions, tannin and flavonoids”, *Food Research International*, **37**, pp. 133-138, 2004.
14. I. Katsuyama, A.A. Khalil, **D. Charles Dunbar** and **Jordan K. Zjawiony** – “Concentration-Dependent Variation of $^1\text{H-NMR}$ Chemical Shifts of Aromatic Protons in Sampangine Derivatives”, *Spectroscopy Letters*, **36**, pp. 477-485, 2003.
15. **Shabana I. Khan**, E.A. Abourashed, **Ikhlas A. Khan** and **Larry A. Walker** – “Transport of Parthenolide across Human Intestinal Cells (Caco-2)”, *Planta Med.*, **69**, pp. 1009-1012, 2003.

16. **Shabana I. Khan**, E.A. Abourashed, **Ikhlas A. Khan** and **Larry A. Walker** – “Transport of Harman Alkaloids across Caco-2 Cell Monolayers”, *Chem. Pharm. Bull.*, **52**, pp. 394-397, 2004.
17. S.G. Lalchandani, X. Zhang, S.S. Hong, S.B. Liggett, W. Li, B.M. Moore, D.D. Miller and **Dennis R. Feller** – “Medetomidine analogs as selective agonists for the human α_2 -adrenoceptors”, *Biochemical Pharmacology*, **67**, pp. 87-96, 2004.
18. M. Lyles-Eggleston, R. Altundas, J. Xia, D.M.N. Sikazwe, P. Fan, Q. Yang, S. Li, W. Zhang, X. Zhu, A.W. Schmidt, M. Vanase-Frawley, A. Shrihkande, A. Villalobos, **Ronald F. Borne** and S.Y. Ablordeppey – “Design, Synthesis, and Evaluation of Metabolism-Based Analogues of Haloperidol Incapable of Forming MPP⁺-like Species”, *Journal of Medicinal Chemistry*, **3**, pp. 497-508, 2004.
19. E.A. McPherson, Z. Luo, R.A. Brown, L.S. Lebard, C.C. Corless, **Robert C. Speth** and S.P. Bagby – “Chymase-like Angiotensin II-Generating Activity in End-Stage Human Autosomal Dominant Polycystic Kidney Disease”, *Journal of the American Society of Nephrology*, **15**, pp. 493-500, 2004.
20. **Bruhaspathy Miriyala**, S. Bhattacharyya and **John S. Williamson** – “Chemoselective reductive alkylation of ammonia with carbonyl compounds: synthesis of primary and symmetrical secondary amines”, *Tetrahedron*, **60**, pp. 1463-1471, 2004.
21. D. Muller, A.K. Mukhopadhyay, **Robert C. Speth**, G. Guidone, R. Potthast, L.R. Potter and R. Middendorff – “Spatiotemporal Regulation of the Two Atrial Natriuretic Peptide Receptors in Testis”, *Endocrinology*, **145**, pp. 1392-1401, 2004.
22. **Igor A. Parshikov**, **Bruhaspathy Miriyala**, **Mitchell A. Avery** and **John S. Williamson** – “Hydroxylation of 10-deoxoartemisinin to 15-hydroxy-10-deoxoartemisinin by *Aspergillus niger*”, *Biotechnology Letters*, **26**, pp. 607-610, 2004.
23. **Igor A. Parshikov**, **Kannoth M. Muraleedharan**, **Mitchell A. Avery** and **John S. Williamson** – “Transformation of artemisinin by *Cunninghamella elegans*”, *Applied Microbiology and Biotechnology*, 2004.
24. **Jiangnan Peng**, **Mitchell A. Avery** and **Mark T. Hamann** – “Cyanthiwigin AC and AD, Two Novel Diterpene Skeletons from the Jamaican Sponge *Myrmekioderma styx*”, *Organic Letters*, **5**, pp. 4575-4578, 2003.
25. **Jiangnan Peng**, **Jin-Feng Hu**, **Abul B. Kazi**, **Ze Li**, **Mitchell A. Avery**, O. Peraud, R.T. Hill, S.G. Franzblau, F. Zhang, R.F. Schinazi, S.S. Wirtz, P. Tharnish, M. Kelly, S. Wahyuono and **Mark T. Hamann** – “Manadomanzamines A and B: A Novel Alkaloid Ring System with Potent Activity against Mycobacteria and HIV-1”, *Journal of the American Chemical Society*, **125**, pp. 13382-13386, 2003.
26. **Jiangnan Peng**, X. Shen, K.A. ElSayed, **D. Charles Dunbar**, T.L. Perry, S.P. Wilkins, **Mark T. Hamann**, S. Bobzin, J. Huesing, R. Camp, M. Prinsen, D. Krupa and M.A. Wideman – “Marine Natural Products as Prototype Agrochemical Agents”, *Journal of Agricultural and Food Chemistry*, **51**, pp. 2246-2252, 2003.
27. **Jiangnan Peng**, K. Walsh, V. Weedman, J.D. Bergthold, J. Lynch, K.L. Lieu, I.A. Braude, M. Kelly and **Mark T. Hamann** – “The new bioactive diterpenes cyanthiwigins E – AA from the Jamaican sponge *Myrmekioderma styx*”, *Tetrahedron*, **58**, pp. 7809-7819, 2002.
28. **Jiangnan Peng**, S.G. Franzblau, F. Zhang and **Mark T. Hamann** – “Novel sesquiterpenes and a lactone from the Jamaican sponge *Myrmekioderma styx*”, *Tetrahedron Letters*, **43**, pp. 9699-9702, 2002.
29. **Samir A. Ross**, G.N.N. Sultana, **Charles L. Burandt**, **Mahmoud A. ElSohly**, **Jannie P.J. Marais** and **Daneel Ferreira** – “Syncarpamide, a New Antiplasmodial (+)-Norepinephrine Derivative from *Zanthoxylum syncarpum*”, *Journal of Natural Products*, **67**, pp. 88-90, 2004.
30. **Robert C. Speth**, T.E. Brown, R.D. Barnes and J.W. Wright – “Brain Angiotensinergic Activity: the State of Our Current Knowledge”, *Proc. West. Pharmacol. Soc.*, **46**, pp. 11-15, 2003.
31. **Robert C. Speth** – “The Genome Poem”, *American Journal of Medical Genetics*, **120A**, p. 308, 2003.
32. **D. Jeremy Stewart**, I. Katsuyama, **Hesham T. Fahmy**, F.R. Fronczek and **Jordan K. Zjawiony** – “A Direct Synthesis of 3,5-Dibromo-*m*-methyl-L-tyrosine”, *Synthetic Communications*, **34**, pp. 547-555, 2004.
33. S.J. Swenson, **Robert C. Speth** and J.P. Porter – “Effect of a perinatal high-salt diet on blood pressure control mechanisms in young Sprague-Dawley rats”, *AJP-Regul Integr Comp. Physiol.*, **286**, pp. R764-R770, 2004.
34. **Robert C. Speth** – “Sarcosine¹, glycine⁸ angiotensin II is an AT₁ angiotensin II receptor subtype selective antagonist”, *Regulatory Peptides*, **115**, pp. 203-209, 2003.
35. **Satoshi Takamatsu**, **Dale G. Nagle** and W.H. Gerwick – “Secondary Metabolites from Marine Cyanobacteria and Algae Inhibit LFA-1/ICAM-1 Mediated Cell Adhesion”, *Planta Med.*, **70**, pp. 127-131, 2004.
36. **Abhai K. Tripathi**, **Shabana I. Khan**, **Larry A. Walker** and **Babu L. Tekwani** – “Spectrophotometric determination of de novo hemozoin/ -hematin formation in an in vitro assay”, *Analytical Biochemistry*, **325**, pp. 85-91, 2004.

37. J.W. Wright, E. Tamura-Myers, W.L. Wilson, B.P. Roques, C. Llorens-Cortes, **Robert C. Speth** and J.W. Harding – “Conversion of brain angiotensin II to angiotensin III is critical for pressor response in rats”, *American Journal of Physiol Regul Integr Comp Physiol*, **284**, pp. R725-R733, 2003.
38. De-Yu Xie, L.A. Jackson, J.D. Cooper, **Daneel Ferreira** and N.L. Paiva – “Molecular and Biochemical Analysis of Two cDNA Clones Encoding Dihydroflavonol-4-Reductase from *Medicago truncatula*”, *Plant Physiology*, **134**, pp. 979-994, 2004.
39. L.S. Zisman, R.S. Keller, B. Weaver, Q. Lin, **Robert C. Speth**, M.R. Bristow and C.C. Canver – “Increased Angiotensin-(1-7)-Forming Activity in Failing Human Heart Ventricles”, *Circulation*, pp. 1707-1712, 2003.
40. **Jordan K. Zjawiony** – “Biologically Active Compounds from Aphyllphorales (Polypore) Fungi”, *Journal of Natural Products*, **67**, pp. 300-310, 2004.

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.

<i>Invention Disclosures Filed in 2004:</i>	3
<i>Patent Applications Pending:</i>	19
<i>Recent Patents Granted:</i>	0

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

- The Agrochemicals Division of the American Chemical Society presented its International Award for Research in Agrochemicals to **Stephen Duke**, Research Leader of the USDA Agricultural Research Service (ARS) Natural Products Utilization Research Unit. Dr. Duke was honored with the award at the 227th ACS National Meeting in Anaheim, California – March 29, 2004.
- The University of Mississippi was one of six winners of an American Society of Health-System Pharmacists Best Practices Award for its “Pharmaceutical Care Clinics: An Innovation in Collaborative Medication Therapy Management”. The project is being led by **Leigh Ann Ramsey**. The award was presented at the ASHP Midyear Clinical Meeting in New Orleans.
- The 2004 Graduate Achievement Awards were presented to **Haidy Kamel** (Pharmacognosy) and **Suneela Prodduturi** (Pharmaceutics).
- **Samir Ross:** (a) was an invited speaker at the Fourth Pharmaceutical Sciences Conference held at Assiut University, School of Pharmacy in Assiut, Egypt – March 6-7, 2004. The topic of the talk was “Biological and Phytochemical Studies on Truffles”.
(b) was an invited speaker at the International Conference on Natural Products: Chemistry, Technology and Medicinal Perspectives – October 8-11, 2003 in Almaty, Kazakhstan. The title of his talk was “Mushrooms as a Potential Source for Biologically Active Compounds”.
(c) attended the North American Mycological Association Foray 2003, which was held at Saint-Augustin-de-Desmaures, Quebec, Canada – August 29-September 1, 2003.
- **Jordan Zjawiony** is serving on the International Editorial Board of *Marine Drugs*, a new online international magazine on the research, development and production of drugs from the sea, including marine natural product chemistry.
- Presentations made during the American Pharmacists Association Meeting – March, 2004:
(a) **Joseph Bonnarens, Noel Wilkin, David McCaffrey** and **Dewey Garner** – “Examining the Relationships Within and the Presence of the Service-Profit Chain in Independent Community Pharmacy”.
(b) **Mansi Shah, John Bentley** and **David McCaffrey** – “Patient Evaluation of Care Following a Denial of an Advertising-related Prescription Drug Request: The Role of Expectations, Symptom Severity and Physician Decision Making Style”.
- Poster and Podium Slide Presentation held during the Annual Meeting of the International Association of Dental Research on March 11, 2004 – **Michael Repka, Suneela Prodduturi** and **Steven Stodghill** – “Evaluation of Hot-Melt Extruded Films Containing Antifungals for the Treatment of Oral Candidiasis”.

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!** Thank you.

cc: Dean Barbara G. Wells
Ms. Dabney Weems