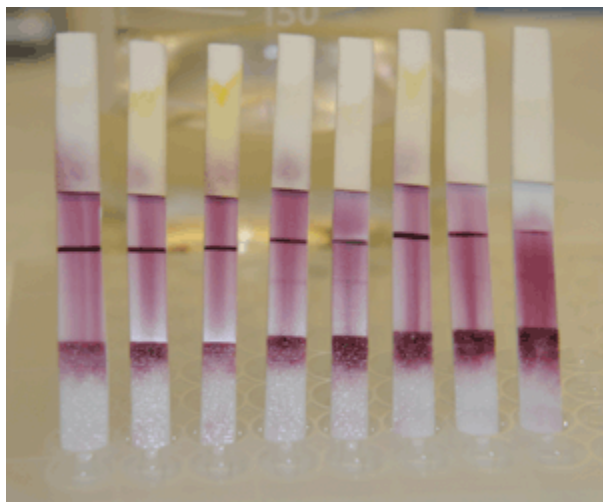


# Arkansas Children's Hospital Research Institute RESEARCH UPDATE



## STTR Awards: Bringing Research Answers from Academic Laboratories to Clinical Settings



**Early prototypes of the Acetaminophen-Protein Adduct Dipstick were developed using STTR funds.**

Acetaminophen accounts for approximately half of all cases of acute liver failure in the US. Existing clinical laboratory assays for the diagnosis of acetaminophen toxicity yield inconclusive results for many patients. Acetaminophen Toxicity Diagnostics (ATD), a start-up company founded by Dr. Laura James, Dr. Dean Roberts, and Dr. Jack Hinson, was recently awarded a Small Business Technology Transfer (STTR) Phase II award from NIH. ATD was founded in 2006 to develop a commercial dipstick test that can diagnose acetaminophen-induced liver injury. The award will allow ATD to further develop the test for the detection of acetaminophen protein adducts in human blood.

While safe when used properly, acetaminophen is easily available over the counter and found in many prescription medications for the treatment of pain. Acetaminophen is a common cause of poisoning from over-the-counter medications. In severe cases, acetaminophen overdoses can cause serious liver

damage that can result in liver failure. In adults, approximately half of all acute liver failure cases result from acetaminophen poisoning. In children, 20% to 25% of cases of acute liver failure are due to acetaminophen poisoning. The signs of acetaminophen poisoning—fatigue, nausea, vomiting, and abdominal pain—are often vague and subtle. Acetaminophen is rapidly cleared from the blood, generally within 24 hours. Elevated acetaminophen levels in the blood are the standard test for the diagnosis of acetaminophen overdose. However, patients that present for medical care several days after acetaminophen overdose may have low to undetectable levels of acetaminophen, making the diagnosis difficult. The test under development by ATD measures acetaminophen protein adducts that remain in the blood at high levels for approximately 7 days after the overdose. This test, which will be in a dipstick format and measures a product of acetaminophen metabolism, is expected to give results within 20 minutes.

ATD received a Phase I STTR grant in 2007. STTR awards allow small companies to perform proof of concept studies, in collaboration with an academic institution, to develop a product that has the potential for future commercialization. This initial grant allowed ATD to develop a prototype point of care dipstick test for acetaminophen protein adducts. ATD has filed for a patent through the Technology Licensing Office of UAMS Arkansas BioVentures. ATD's STTR awards are the first from this program to ACHRI investigators. ATD received ACHRI/ABI funds to improve the sensitivity and precision of the HPLC assay early in its history and has also received funds for laboratory equipment in 2009 from the NIH through the American Recovery and Reinvestment Act of 2009 (ARRA).

In the Phase II grant, ATD is collaborating with a dipstick manufacturing company to generate “research use only” dipsticks. ATD will perform initial validation of the dipsticks during the first year of the award. During second year of the award, a multi-center study involving six hepatology centers in the US will be performed. Following completion of this study, ATD will begin to seek approval from the Food and Drug Administration.

Dr. James explains that the STTR program was established by the NIH to foster the transfer of research discoveries in academic laboratories to the clinical setting. With this most recent award, ATD is moving closer to providing this important tool to clinicians who manage evaluate and treat patients with liver injury.

### **Hogan Honored for Outstanding Contribution to the National Children’s Study**

William Hogan\*, MD, MS—Associate Professor and inaugural Chief of the Division of Biomedical Informatics for UAMS—was honored for his “outstanding contribution to the National Children’s Study\*\*” during the Executive Steering Committee meeting of the National Children’s Study held on August 25 and 26, 2011 at Natcher Conference Center on the National Institutes of Health campus in Bethesda, Maryland.

Recognized by Steven Hirschfeld, MD, PhD, Associate Director for Clinical Research, Acting Director, National Children’s Study, Eunice Kennedy Shriver National Institute of Child Health and Human Development, Hirschfeld stated, “Dr. Hogan is a leader in the field of bioinformatics and helped us take our vague understanding of OpenSource informatics systems and began to operationalize them.” During the meeting, Dr. Hogan presented a session on “Meeting the Informatics Challenges of the National Children’s Study” and helped facilitate a separate session on “Informatics Systems”. The National Children’s Study informatics team for the Arkansas Study Center, led by Dr. Hogan, also presented five posters on their informatics work as part of National Children’s Study Research Day held on August 24, 2011. Dr. Hogan subsequently received an invitation to participate in a meeting of the Child Health Oversight Committee of the Clinical and Translational Science Award Consortium in October.

Charlotte Hobbs, MD, PhD, primary investigator for the National Children’s Study and section chief of Birth Defects Research in the Department of Pediatrics at UAMS College of Medicine noted, “We have continued to be impressed by Bill’s work to lead our local study centers utilization open-source informatics systems as well as his leadership with the National Children’s Study nationally. His contributions have been invaluable, and we are grateful to have him as a co-investigator.”

\*William R. Hogan, MD, MS, is Associate Professor and Chief of the Division of Biomedical Informatics (DBMI) at University of Arkansas for Medical Sciences (UAMS). This Division started with his arrival in November of 2009 and has quickly grown to include six faculty and five staff. In addition to his duties as Chief of the DBMI, Dr. Hogan is co-investigator and Director of Informatics at the Arkansas Study Center of the National Children’s Study, the Director of Informatics at the Translational Research Institute at UAMS, and the Director of the Research Informatics Shared Resource at the Winthrop P. Rockefeller Cancer Institute. Dr. Hogan is an accomplished researcher and practitioner of biomedical informatics. After his Internal Medicine residency, he completed training in biomedical informatics at the University of Pittsburgh with an MS in Intelligent Systems. He has been a member of the American Medical Informatics Association for over 15 years. He has been principal investigator or co-investigator on over \$55M of grant funding. He has authored over 50 journal publications and peer-reviewed papers at conferences, and is a leader in the fields of ontology and biosurveillance.

\*\*The National Children's Study (NCS) is the largest long-term study of children's health ever conducted in the United States, and will follow 100,000 children from before birth to age 21 to learn how the environment influences children's health, development, and quality of life. The NCS Benton County Study Site is the only site in Arkansas chosen to participate in the national study and is funded by a contract through Arkansas Children's Hospital Research Institute in partnership with the University of Arkansas for Medical Sciences. The Study is led by the Eunice Kennedy Shriver National Institute of Child Health and Human Development of the National Institutes of Health (NIH) in collaboration with a consortium of federal government partners. Study partners include the National Institute of Environmental Health Sciences of the NIH, the Centers for Disease Control and Prevention, and the Environmental Protection Agency. Visit [www.ncsbentoncounty.com](http://www.ncsbentoncounty.com).

### President's Choice Publications of the Month

Stop by the bulletin board located in the first-floor lobby of the ACHRI building to see this month's President's Choice publications. The following articles were selected as this month's feature publications.

- Swearingen CJ, Tilley BC, Adams RJ, Rumboldt Z, Nicholas JS, Bandyopadhyay D, Woolson RF. Application of Beta Regression to Analyze Ischemic Stroke Volume in NINDS rt-PA Clinical Trials. *Neuroepidemiology*. 2011 Sep 1;37(2):73-82. [Epub ahead of print]
- Abraham BP, Frazier EA, Morrow WR, Blaszkak RT, Devarajan P, Mitsnefes M, Bryant JC, Sachdeva R. Cystatin C and neutrophil gelatinase-associated lipocalin as markers of renal function in pediatric heart transplant recipients. *Pediatr Transplant*. 2011 Sep;15(6):564-9. doi: 10.1111/j.1399-3046.2011.01502.x. Epub 2011 Apr 25.

ACHRI would like to know about your published findings. As your articles are published, please email or mail a copy to [Phaedra Yount](mailto:Phaedra.Yount@uams.edu) (mail slot 842). The number of publications by our researchers is reported to the hospital and ACHRI boards, so it is important that we receive an accurate count of the publications your research produces.

### Did you miss the Annual Policy Review on September 7, 2011?

This annual presentation focused on the over 50 Institutional Review Board (IRB) policies that were updated this year, the update of the IRB's Human Research Protection Program Plan, and more. If you would like to get copies of the handouts, have questions about the changes, or would like to bring an abbreviated version of this program to your area meeting, please contact Margie Brackeen at [brackeenmargie@uams.edu](mailto:brackeenmargie@uams.edu) or 364-3586.

### Registering Your Clinical Trial with Clinicaltrials.gov

The link below is a great resource regarding your recent questions about Clinicaltrials.gov. This site will help you determine when and at what institution a research project should be registered.

[http://grants.nih.gov/clinicaltrials\\_fdaaa/](http://grants.nih.gov/clinicaltrials_fdaaa/)

If you will click on the link "Steps to Compliance for NIH Grantees" you will find 2 flow charts that will help you identify an applicable Clinical Trial and Identify the Responsible Party for which the clinical trial should be registered.

It is always important to remember, before the study is started, to know the plans for publications so the registration requirements can be determined. Keep in mind that while retrospective chart reviews and lab studies do not meet the general requirements for registration, the publisher can refuse to publish if it is not registered.

For more information, contact Janet Storment, RN, CCRC, ACHRI Clinical Trials Administrator at 364-2760.

### **Elevator Upgrade Schedule**

The elevators at ACHRI's front entrance will be out of service periodically between August 29 and December 5 while they are upgraded. The construction schedule is as follows: **September 12 - September 29: The South elevator will be out of service; September 26 - December 5: Both elevators will be out of service.**

During this construction phase, employees may take the stairs or they may enter ACHRI via the skywalk located on the 4th floor of the South Campus Medical Arts Building. From that point, stairs may be taken to access ACHRI's 2nd or 4th floors. The freight elevator is designated for animal and materials management purposes. Employees with handicaps that prevent them from using the stairs may receive authorization to use the freight elevator only after receipt of animal certification.

If you have questions or concerns regarding this matter, please contact Blake Harrison at 364-2710 or Al Martin at 364-7519 (pager 405-0272).

### **ABI Fall Research Symposium**

The ABI Fall Research Symposium is scheduled for Wednesday, September 21, at the Peabody in downtown Little Rock. The meeting will celebrate ten years of ABI funding (through the Arkansas Tobacco Settlement Act of 2000) and the expanded biomedical and agricultural research that is supported by this funding. Governor Mike Beebe has been invited to speak, as he was very supportive and instrumental in developing the health programs supported by the tobacco funds. There will be updates on some of the cutting-edge research at each of the ABI member institutions. The symposium will also include lunch, poster session, and vendor show so that we can make the most use of your time. As in past years, there is no registration fee, but contact Leslie Humphries (526-6810) if you will be attending.

### **New UAMS Policies Concerning Clinical Trials**

UAMS has released three new policies that may affect your research. The documents are available at <http://compoint/ACHRI/Lists/Announcements/DispForm.aspx?ID=123>.

### **Research Coordinator Meeting**

The July ACH Research Coordinator Meeting was very well attended by over 30 people. Mark your calendar for the next meeting on October 25 from noon to 1 pm in Room EC49 (East Campus); lunch is available for the first 25 attendees. If you need more information about these meetings, contact Janet Storment at 364-2760.

### **Request for Research Highlights for Fiscal Year 2011**

We are gathering research highlights for Fiscal Year 2011 (7/1/10 - 6/30/11) as we prepare the upcoming ACHRI annual report. All highlights submitted will be placed on ACHRI's Research Highlights web page that complements the printed report and will be provided to ACHRI's Board of Directors. Please forward your research accomplishments to [Phaedra Yount](#).

## New Clinical Studies

PI	Agency	Project Period	Total Cost
Ariel Berlinski	Gilead/PRA	8/8/11 - 1/31/17	\$45,905
Kimo Stine	Biogen Idec Hemophilia Inc	8/26/11 - 11/30/11	\$73,422

## Recent Grant Awards and Submissions

## Awards

PI	Agency	Project Title	Project Period	Total Funding
Laura James	NIH/ATD	Adduct Dipstick for Diagnosis of Acetaminophen Toxicity	7/1/2011-6/30/2014	\$808,067
Judith Weber	AmeriCorps	Request for Two AmeriCorps Service Members for 2011-2012	10/1/2011-9/30/2012	\$25,396

## Extramural Submissions

PI	Agency	Project Title	Project Period	Total Funding
John Fowlkes	NIH	The Insulin/IGF-1 Axis in Diabetic Osteopathy	4/1/2012-3/31/2017	\$1,873,406
Charlotte Hobbs	NIH	NCS IMS System	9/26/2010-9/25/2013	\$1,954,588
Dennis Kuo	Blue & You Foundation/ARAAP	Breathe Easy: Combating Asthma through Practice Quality Improvement	1/1/2012-12/31/2012	\$16,435
Dennis Kuo	HRSA/MCHB	Co-Management of Complex Neonates: Supporting the Medical Home	2/1/2012-1/31/2015	\$898,621
Richard Kurten	NIH	Subcontract to Project 1: Defining Steroid Inhibition of B2 Adrenergic Receptor Tolerance	7/1/2012-6/30/2017	\$370,000
Judith Weber	USDA/NIFA	Arkansas School-Based People's Garden Grant Program	10/1/2011-3/31/2013	\$149,892

## Intramural Submissions - CUMG

PI	Source	Project Title	Project Period	Total Funding
Boban Abraham		Assessment of Epicardial and Microvascular Coronary Artery Integrity in Pediatric Heart Transplantation: A Pilot, Physiologic Investigation	11/1/2011-5/31/2012	\$10,000
Mary Aitken		Determining Teen Mothers' Adherence to Infant Safe Sleep Recommendations	12/1/2011-11/30/2012	\$39,967
Tom Collins		Comparison of Aortic Doppler Measurements to Carotid-Femoral Pulse Wave Velocity in Non-Invasive Arterial Stiffness Assessment	11/1/2011-10/31/2012	\$22,642
Reza Hakkak		Obesity, Soy Diet and Gut Microbiota	1/1/2012-6/30/2013	\$40,000
Richard McCarthy		Assessment of Allograft Tendon Utility for Scoliosis Correction	2/1/2012-1/31/2013	\$39,977
Wendy Ward		Technology-Dependent Children: Patient QOL and Family Impact	1/1/2012-6/30/2013	\$20,000

### **Grant Writing Tip: Subscribing to Grants.gov Grant Opportunity Postings**

Grants.gov provides grant seekers many ways to receive notifications of new grant opportunity postings and updates offered by 26 federal grant-making agencies from its site. You can subscribe to receive notifications by selecting the desired categories of funding activity, funding instruments, eligible applicants, and funding agency, as well as by funding opportunity number or CFDA number. You can also request daily delivery of all new and updated postings to Grants.gov to your email inbox. Though the daily emails may include agencies that may not be initial matches for your research goals, you may uncover unexpected opportunities for funding or collaboration. The daily emails are only lengthy on occasion, but after receiving them for a while, you will become quicker at scanning them for possible funding opportunities.

To learn more about this service, visit the Grants.gov subscriptions page at [http://grants.gov/applicants/email\\_subscription.jsp](http://grants.gov/applicants/email_subscription.jsp). You do not need to be a registered user of Grants.gov to sign-up for this service. However, once you find an opportunity to which you wish to apply, you will need to register with Grants.gov.

### **Upcoming Intramural Grant Program Workshops**

ACHRI intramural grant programs provide an opportunity for beginning and established investigators to obtain funding for their research projects and programs. To help investigators of all experience levels, ACHRI will provide workshops on two of its competitive research grant programs soon.

CUMG: Tuesday, December 6, 10:00 am to 11:30 am, Brandon Auditorium  
Student/Clinical Staff: Tuesday, January 10, 10:00 am to 11:30 am, Brandon Auditorium

The next application deadlines for these programs are in the spring, but starting on your application early can ensure it is complete and competitive. The upcoming application deadlines are 3/1 for CUMG and 3/15 for Student/Clinical Staff. More information on these programs is available at the ACHRI Web site: [http://achri.archildrens.org/resources/intramural\\_grant\\_programs.htm](http://achri.archildrens.org/resources/intramural_grant_programs.htm).

### **NIH to Fund Pediatric Biomarker Studies**

Through three new funding announcements, NICHD and NINR seek to support studies that would investigate the use or adaptation in children of biomarkers tested for adults. The studies could involve a wide range of research approaches and use a variety of types of biomarkers.

The three grant programs NIH will use to support the program include [R01 research project grants](#) of up to five years with no pre-set budget, [R03 small grant program awards](#) of up to \$50,000 per year, and [R21 exploratory/developmental grants](#) of up to \$275,000 over two years. Researchers may propose using or validating biomarkers developed in adults for use in pediatric diagnosis, prognosis, and estimation of disease progression, toxicity, and response to therapies.

### **NIH Loan Repayment Programs**

The 2012 application cycle for the National Institutes of Health's Loan Repayment Programs (LRPs) is now open. Start your application online at <http://www.lrp.nih.gov>. The LRPs repay the outstanding student loans of researchers who are or will be conducting nonprofit biomedical or behavioral research. Opportunities are available in five research areas – clinical, pediatric, health disparities, contraception and infertility and clinical research for individuals from disadvantaged backgrounds. Applications will be accepted until 8:00 p.m. Eastern time on November 15, 2011.

### **2012 SSPR Meeting Info**

The SSPR information for the call for abstracts has been released. Information about the meeting,

which will be held in New Orleans (9-11 Feb) can be found on the SSPR website: [http://www.aps-spr.org/Regional\\_Societies/SSPR/2012/default.htm](http://www.aps-spr.org/Regional_Societies/SSPR/2012/default.htm). The abstract submission deadline is 14 October 2011.

### **Attention Grant Seekers!**

Each week we will post NIH's Weekly Funding Opportunities and Notices and NACHRI's Funding Finds and Grants Alerts. You can receive immediate notification of additions of postings by using "Alert Me" under Actions at the new [Weekly Funding Opportunities](#) page at ACHRI's Sharepoint site.

### **Need assistance but don't know who to call at ACHRI?**

If you have questions while considering or conducting research at ACHRI or ACH but aren't sure who to contact, call our office at 364-7373. Our staff will be glad to help you or to connect you with the person that can help.



Please check out our revised administrative staff directory on the web (<http://achri.archchildrens.org/staff.htm>). The directory now includes descriptions of services offered by ACHRI staff.