



RESEARCH update

August 2009

Summer Science Program 2009



Summer Science Program Class of 2009

This summer, the UAMS Department of Pediatrics/ACHRI Summer Science Program provided 16 outstanding college students the experience of a career in academic medicine—in both the clinical and the research aspects. These students spent their summer shadowing physicians, attending rounds and clinics, and touring different hospital units, as well as participating in mentored research projects involving children's health. Faculty from various pediatric subspecialties taught basic science and clinical research techniques and helped the students gain exposure to clinical medicine. In addition, the Summer Science Program hosted a lecture series focusing on various aspects of academic

medicine, graduate school, medical school, residency, research, and clinical medicine for its participants. At the end of the program, each student gave a scientific presentation on his or her mentored research project.

Since 1992, over 200 students and 100 pediatric research faculty members have participated in the program. This year, the program selected its 16 participants from 90 applications, and received the support of 17 faculty members serving as mentors. This year's Summer Science students had an average GPA of 3.93; three of the students attend school out of state. Of the seniors in the group, one will be attending medical school this fall, while another is pursuing a doctorate in psychology.

Sky Vanderburg, a biochemistry and molecular biology student at Harding University, was one of this year's Summer Science students. Sky says, "My mentor, Dr. Kathleen Gilbert, and others in her lab have shown a vested interest in my growth as a researcher through high expectations and an even higher level of support." He adds that the Summer Science Program afforded him the best opportunity he has had to gain research experience outside of the university classroom. "It has been uniquely gratifying to be given the responsibility to investigate a specific research question and be intimately involved in the gathering, analysis, and presentation of data," reflects Sky. He is currently completing applications to enter medical school in fall 2010 and states, "My research interests include global health, public health, and after this summer, immunology."

Dr. Robert Fiser, Chairman of the Department of Pediatrics (1975 to 1994), created the Summer Science Program in 1989 to encourage Arkansas college students to pursue careers in medicine and science. Initially, a few college students worked in various research laboratories in the department. Throughout the history of this program, it has been funded using seed money from drug companies, then private companies and a pediatric clinic, and currently through the UAMS Department of Pediatrics and Arkansas Children's Hospital Research Institute—testimony to the broad range of research and clinical support for this program. Currently, Joanne Szabo, MD, is the Director of the Summer Science Program and Jenny Kubacak is its Coordinator.

The Summer Science Program has an application deadline of March 1, 2010, for next year's participants. Any faculty member wishing to participate in the program as a mentor should contact Dr. Szabo or Ms. Kubacak.

To see the Summer Science Program 2009 list of participants, projects, mentors and the photo gallery, visit <http://achri.archildrens.org/summerscienceprogram09.htm>.

President's Choice

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.

- Prodhan P, Fiser RT, Cenac S, Bhutta AT, Fontenot E, Moss M, Schexnayder S, Seib P, Chipman C, Weygandt L, Imamura M, Jaquiss RD, Dyamenahalli U. Intrahospital transport of children on extracorporeal membrane oxygenation: Indications, process, interventions, and effectiveness. *Pediatr Crit Care Med*. 2009 Jul 9.
- Thrailkill KM, Nimmo T, Bunn RC, Cockrell GE, Moreau CS, Mackintosh S, Edmondson RD, Fowlkes JL. Microalbuminuria in type 1 diabetes is associated with enhanced excretion of the endocytic multiligand receptors megalin and cubilin. *Diabetes Care*. 2009 Jul;32(7):1266-8.

ACHRI would like to know about your published findings, as your articles are published, please email or mail a copy to Phaedra Yount (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. To see all [recent publications](#) by ACHRI researchers and their collaborators, please visit the publications web page.

Dr. Laura James Speaks to FDA Advisory Committee

In June, the FDA's Advisory Committee on Drug Safety and Risk Management with two other agency Advisory Committees met to address the public health problem of liver injury related to the use of acetaminophen in both over-the-counter and prescription products. Acetaminophen overdose is the most common cause of acute liver failure in the United States today. The risk of developing liver injury to the individual patient who uses the drug according to directions is very low. However, acetaminophen containing products are used extensively making the absolute number of liver injury cases a public health concern.

Among the invited guest speakers for the meeting was Dr. Laura James. One aspect of her research is to develop assays to improve the diagnosis of acetaminophen-related liver failure. She discussed the basic toxicology of acetaminophen and her work on the detection of acetaminophen protein adducts in human blood samples. These adducts are formed in the liver and released into the blood after an individual consumes excessive or toxic doses of acetaminophen. Dr. James' research has shown that adducts may persist in human blood for 10 days after a large overdose of acetaminophen and that measurement of adducts in human blood can be used to diagnose previously unrecognized acetaminophen overdosed. Dr. James answered questions from the panel after her presentation.

Exceeding the recommended total daily dose (4 grams per day) of acetaminophen may lead to liver injury. Currently recommended doses and tablet strengths of acetaminophen leave little room for error and the onset of liver injury can be hard to recognize. Based on the prevalence of liver injury, it appears that there are distinct factors associated with acetaminophen and acetaminophen products that contribute to liver injury.

Acetaminophen is in many widely used over-the-counter single ingredient products, such as those to treat headaches, and multiple ingredient (combination) products, such as those to treat symptoms of the common cold, like aches and fever. Acetaminophen is also a component of a number of prescription drug products in combination with narcotic pain medicines. So, consumers may reasonably attempt to treat different conditions or symptoms with multiple choices among products containing acetaminophen, but may not realize that acetaminophen is an ingredient common to each and in some cases may take a harmful overdose.

Concerning pediatric patients, multiple products exist for children containing different strengths of acetaminophen. Liquid acetaminophen formulations intended for use in infants are more concentrated (i.e., stronger) to enable proper dosing of the drug at a low volume of liquid. However, failure to distinguish between the two strengths of liquid can result in unintentional overdoses in children.

The Advisory Committee voted on nine specific questions regarding acetaminophen containing products in their recommendations to the FDA. Among these points, the panel recommended eliminating prescription acetaminophen combination products (e.g., Vicodin®). The panel recommended by a vote of 36 to 1 to

recommend that only one pediatric concentration of nonprescription acetaminophen liquid be available. More information about this Advisory Committee meeting, including all recommendations, is available at the [FDA's Web site](#).

ACHRI Research Day - August 19

Don't forget! ACHRI's Research Day will be held on Wednesday, August 19, on the first floor of the Medical Arts Building in South Campus. The event will start with a breakfast at 8:30 followed by presentations beginning at 9:00. After a half-hour noon lunch break, the presentations will resume. During the day, over 20 ACH, ACHRI, and ACNC researchers will give 15-minute presentations on their research. Dr. Clay Bunn, ACHRI Research Conference Coordinator, and Ms. Joyce Norton, Administrative Assistant to the ACHRI President, will send an agenda with the list of presenters prior to the meeting.

Brad Schaefer receives Endowed Chair

On July 7, Brad Schaefer, MD, FAAP, FACMG, became the inaugural recipient of the Committee for the Future Endowed Chair in Genetics. The ceremony included remarks by Dr. Schaefer's colleagues, Owen Rennert, MD, Scientific Director, Eunice Kennedy Shriver National Institute of Child Health and Human Development, NIH, and Bruce Buehler, MD, Executive Director, Hattie B. Munroe Center for Human Genetics, University of Nebraska Medical Center. The Committee for the Future is an organization of young professionals committed to raising funds and awareness for ACH and ACHRI. Since 1986, the group's members have given their time, energy, and talents to meet this goal. Thank you to the Committee for the Future, and congratulations to Dr. Schaefer!

Recent eRequest Changes

eRequest has been updated with several changes. For details of these changes, [please click here](#). If you have any questions or experience any problems with updating, please contact Leslie Montgomery at 364-6546.

ATTENTION: Does your human research project involve an "off-label use" of a drug or device?

Off label use of drugs or devices for the purpose of research activities is not the same as off label use for clinical purposes. The FDA has very specific regulations that apply to the research setting. If you or someone you mentor is conducting an investigator-initiated research project that uses a drug or device, UAMS is requiring you to submit your protocol to the UAMS Research Support Center's Regulatory Affairs Unit for review prior to submission to the IRB. They will help you determine whether the project falls under the FDA regulations for IND/IDE (Investigational New Drug or Investigational Device) applications. Note: If you have an Industry-Sponsored project, the Industry will already hold the IND/IDE if they are providing full support and have given you the protocol. If they are only partially supplying funds or just providing the device or drug free of charge but offer no additional support, you should still contact UAMS. UAMS Research Support Center Contact Information: <http://www.uams.edu/rsc/>; Carole Hamon: 526-7437

ACHRI and UAMS Department of Pediatrics Rise in NACHRI Rankings

Each year, the National Association of Children's Hospitals and Related Institutions (NACHRI) reports the combined amount of NIH awards to children's hospitals and their primary university affiliated department of pediatrics. This year, the total dollar value of ACHRI and UAMS Department of Pediatrics NIH awards rose by 33% over last year to \$5.9 million (from 19 awards). This amount places ACHRI and DOP at 47 on the list of 105 NACHRI member hospitals participating in the survey; last year the institutions were 51st on the list. ACHRI and DOP have now moved into the second quartile. The complete rankings are available at the [ACHRI Web site](#).

Applying for the Fall 2009 CUMG Cycle?

If you are applying in the upcoming CUMG cycle, please remember that the CUMG grant program was modified on May 13, 2009, with approval by the Dean of the UAMS College of Medicine in conjunction with the CUMG Children's Faculty Group Practice Committee. The [revised guidelines](#) are posted at the ACHRI Web site as is the [updated intramural application](#) reflecting these changes. If you have any questions concerning the program and application changes, please contact [Amy Stalls](#) (364-3627). **Fall 2009 CUMG applications are due September 1, 2009.** An overview of the CUMG grant program changes are included at the bottom of this page.

2009 ABI Fall Research Symposium

This year ABI will hold its Fall Research Symposium in Jonesboro at the Fowler Center at Arkansas State University on Friday, September 25. Registration, continental breakfast, and poster setup begins at 9:30 am. Scientific presentations and poster sessions begin at 10 am followed by ASU-ABI facility tours from 2:00 to 3:00 pm. Participants are invited to the ASU-ABI Commercial Innovation Center Ground Breaking and ASU-ABI 5-year Celebration on Saturday, September 26, 2009.

Shared Research Equipment Meeting

On Monday, August 17, at 11:00 am in Brandon North A&B, ACHRI will host a discussion of ideas you may have for future shared equipment purchases or research equipment that you have that could be shared with researchers on campus. From time-to-time grant opportunities for shared/core equipment are released. It can be difficult to assess ACHRI's needs and develop a proposal in time to meet the deadline. Not only will discussions regarding equipment allow ACHRI administration to prepare a list of research equipment needs, it will provide a forum in which our research community can find out about research equipment and technologies that already exist on campus.

Analytical Support Available from the Autism Metabolic Genomics Laboratory

Dr. Stepan Melnyk, PhD, Laboratory Director for the Autism Metabolic Genomics Lab, offers an Oxidative Stress Core Laboratory equipped with state-of-the-art analytical instruments including HPLC-based Electrochemical Detectors, HPLC UV/Visual detectors, LC-MS, and Universal Detector Corona. The equipment can assist with the detection of proteins, lipids, carbohydrates, or small molecules associated with oxidative stress, providing excellent sensitivity, wide dynamic range, superior reproducibility, and a more consistent response. Dr. Melnyk is looking for opportunities to consolidate research institutionally, between institutions, or nationally known research centers. The equipment in this laboratory as well as the expertise of its staff provides advantages for beginning and established researchers to strengthen their grant applications. Currently and in past, the Oxidative Stress Core Laboratory provides significant support for numerous grants (NIH, DOD, CUMG) by successfully performing analysis of multiple markers of oxidative stress and transmethylation pathway metabolites. To discuss your interest with Dr. Melnyk, contact him at 364-4659 or 364-4534.

Expense Codes for Animal Procurement and Per Diem

To accommodate the new animal ordering system, ACHRI will be assigning expense codes for the procurement of animals (472) and for the per diem expense (473). Currently, expense codes 989 Other Expense or 599 Other Supplies are being used for both purchase and per diem. From this point forward, the eRequest budgets for projects that will incur animal expenses will include the newly assigned codes. When submitting budgets, please list separately the expenses for procurement and the expenses for per diem.

For existing accounts, budgets will not be revised at this time unless you make a request to revise. You may do this through eRequest or contacting Leslie Montgomery (364-6546).

New Industry-Sponsored Projects

Clinical Trials	Agency	Project Period	Total Cost
Ariel Berlinski	J&J	7/09 - 7/10	31,900.00
Eileen Ellis	CCHMC	7/09 - 12/09	6,000.00
Jose Romero	Novartis	7/09 - 6/11	83,300.00
Ashley Ross	DUKE/NIH	6/09 - 12/09	3,822.00
Ron Sanders	UMICH/NIH	9/09 - 8/10	150,144.51

Recent Grant Awards and Submissions

Awards				
PI	Agency	Project Title	Project Period	Total Funding
Charlotte Hobbs	NIH	Administrative Supplement Providing Summer Research Experiences for Students and Science Educators	6/1/09-10/31/09	\$14,209.00
Charlotte Hobbs	NSF	Automated Analysis of Body Fluid Chemistry Using MHD-Based Microfluidics	7/1/09-6/30/10	\$39,915.00
Eileen Ellis	Cincinnati Children's Hospital	Pharmacogenetics of Inosine Monophosphate Dehydrogenase in Pediatric Kidney Transplant Patients	7/1/09-6/30/10	\$6,000.00
Martin Ronis	NIH/NIAAA	Alcohol Induction of Bone Resorption: The Role of Oxidative Stress	7/10/09-6/30/14	\$1,745,625.00
Submissions				
PI	Agency	Project Title	Project Period	Total Funding
Thomas Badger	NIH/NCRR	ACHRI Animal Facility Improvement Project	4/10/10-4/30/11	\$469,071.00
Jayne Bellando	HRSA	Dev Profiles of Children with Autism: Implications for Treatment of Sleep & Gastrointestinal Disorders	9/1/09-9/30/10	\$10,437.00
George Fuchs	Autism Speaks	A Study of Sleep Disturbance and Gastrointestinal Disease in Children with Autism Spectrum Disorders	9/1/09-8/31/11	\$423,170.00
Richard Jacobs	NIH/NCRR	ACHRI Facility Expansion Project	4/1/10-5/31/14	\$8,632,147.00
Richard W. Hall	NIH/NICHD	Pain, Morphine and the Developing Brain: School Age Outcomes	10/1/09-9/30/12	\$2,801,189.00

Grant Writing Tip: Routing your intramural grant application

Instructions for ACHRI's intramural grant programs suggest that you begin routing your application for the required signatures 10 business days before the due date. At 10 days prior to the due date some applicants are still revising their research plans so what should be routed at that time?

If you will be routing a research plan that's not yet final, let the signees know what the status of your plan is. They may want to wait until your application is more complete. If the in-progress application is acceptable, the abstract, budget, and budget justification forms are essential sections of the intramural Grant Application Package to include with your ACHRI Intramural Grant Programs Main Application Form (the signature page). Any other forms that require a signature, such as a faculty support form, should be routed as well. Please note that while the instructions ask for the budget and budget justification forms to be signed, the forms do not include signature blanks. The signature on the Main Application Form will be considered as sign off for these two forms.

Be sure to review the application instructions and package closely before routing so you don't have to route it a second time. If you have questions about the intramural grant application, please contact [Amy Stalls](#) (364-3627).

Beware: Recent Version of Adobe Reader or Acrobat Required for Grants.gov Submissions

To complete a Grants.gov application package (e.g., SF424 forms used for NIH grant proposal submission) or to convert files that attach to the package you must either install the Grants.gov compatible version of Adobe Reader for free or have an equivalent version of Acrobat Standard or Professional software (8.1.1, 8.1.2, 8.1.3, 8.1.4, 8.1.5, 9.0, 9.1, 9.1.1) already installed on your computer.

Upcoming Educational Opportunities

There are several on-campus educational opportunities scheduled in the next couple months. Learn more about these opportunities by visiting <http://achri.archchildrens.org/resources/calendar.htm>.

Funding Opportunities

The National Association of Children's Hospitals (NACH) prepares and distributes upcoming funding opportunities every two weeks. Funding opportunities recently distributed by the NACH are available on the ACHRI web site (<http://achri.archchildrens.org/funding.pdf>). This file is updated monthly. Bookmark the page!

Contact ACH Public Relations with All Media Requests

It is a policy of Arkansas Children's Hospital that all employees (both ACH and UAMS who work on ACH campus) contact the ACH Public Relations department after any media request. Employees who are contacted by media for interviews regarding their work on the ACH campus, in connection with an outside organization, for their personal opinion on a particular topic, or any other reason should contact the ACH Public Relations department. Media are not allowed on the ACH campus unless they are escorted by a Public Relations representative. Employees who wish to conduct an interview with the media on matters not relating to Arkansas Children's Hospital must conduct those interviews off-site from the hospital campus. Please direct any questions or concerns to the Public Relations office at 364-6444. [ACH Policy J02 – Press Relations Policies and Release of Patient Information](#) (available in the ACH Vault) addresses this issue.

Wanted: Researcher Profiles!

In April, there were 917 page visits to ACHRI's "Our Researchers" index page. These views were from many of the over 1,800 unique visitors to ACHRI's Web site. Would you like to add your researcher profile to our Web site? If so, send [John Gregan](#) the following information: your title, a paragraph about your research interests and accomplishments, a list of your current research funding, appropriate contact information, and a list of five key publications. Include a current digital photograph if you have one available. You can view the profiles we've developed here: <http://achri.archchildrens.org/researchers/faculty.htm>.

If you already have a profile at our web site, contact John if you need to revise it in regards to accomplishments, publications, and funding.

ACHRI Address Change

With the dedication of Children's Way (formerly Marshall Street), ACHRI has a new street address: 13 Children's Way. Use this address on grant applications submitted through ACHRI. Refer to the [sample SF 424](#) with ACHRI information at our Web site to view the change for NIH submissions.

Also, don't forget to update your study consent forms and other research-related documents (and any templates) that may contain the old address as you make new submissions to the IRB.

Advertise Your Clinical Trial on the ACH Web site

Are all of your potential research subjects aware of your clinical trial? An excellent tool you can use to recruit participants for your studies is available at www.archchildrens.org/research. This web site lists currently enrolling studies, so interested parents can contact you about possible participation. To have your study included on the web site, you must have received IRB approval for your study advertisement. Once you have done so, please email a copy of the approved material and a completed [Clinical Trial Web site Form](#) to [Rebecca Myrick](#) or call her at 364-3577.

Overview of CUMG Grant Program Changes

Eligibility

- Only faculty holding primary or secondary appointments in clinical departments which bill and collect clinical revenues through the UAMS Children's University Medical Group (CUMG) are eligible to apply.

Timeline

- Awards can be made for up to a 24-month period.
- Upon receiving notification of an award, the PI will have 24 months from the date of award to complete his or her research.
- Investigators will not have access to their funds until the proper protocol has been received.

Extensions

- Extensions of up to one year may be allowed when human subjects are involved in the study and recruitment numbers have not been achieved at the end of the study period.
- Extensions will still require approval by the President of ACHRI through, ACHRI Research Grant Specialist, Amy Stalls.

Category A. Established Investigator Awards

- Category A. Bridge Money for Productive Investigators has changed to Category A. Established Investigator Awards.
- The term "established investigator" is defined as "an individual who has a track record of NIH research funding and displays scholarly productivity through publications."
- Category A. Established Investigator Awards is broken into three subcategories: A.1. Bridging; A.2. Expanding or Redirecting Research Activities; A.3. Common Equipment.

Sub-Category A.1. Bridging

- Intended for currently or recently funded investigators with a proven track record of NIH funding who need funding to "bridge" between NIH grant applications.
- Investigators must target renewed or NIH funding; official summary statements must be included with submission.
- Bridging funds may be requested by investigators whose funding has been and/or will be from a non-NIH peer-reviewed federal source or national foundation source; investigators must have approval from the UAMS Dean of College of Medicine prior to submitting in these circumstances.
- Submissions from any investigators applying for bridging funds from a non-NIH peer-reviewed federal source or national foundation source will not be accepted without an attached copy of the Dean's approval.

Sub-category A.2. Expanding or Redirecting Research Activities

Sub-category A.3. Common Equipment

Category B. Seed Money for Young Investigators

- The term "young investigator" is defined as "an individual who has not previously competed successfully for an NIH-supported research project other than the following small or early stage awards: R00, R03, R15, R21, R34, R36, R41, R43, R55, R56, SC2, SC3, K awards."

Category C. Clinician/Faculty/Trainee Initiated Research

- Eligible applicants include all faculty meeting general eligibility criteria, who are not eligible under

Category A, as well as faculty who are eligible under Category B, but are not pursuing future extramural funding.

- Category C is still open to residents and fellows, who have enough time left in their training to complete the proposed research.

Award Amounts

- For Categories A & B, the maximum award amount allowable is \$40,000.
- For Category C, the maximum award amount allowable is \$20,000.

CUMG Grant Account Reviews/Tracking

- Mandatory account reviews are required after a time period of one year and 90 days prior to the completion of the project.
- Funded investigators must complete a questionnaire after the time period of one year and also a final progress report at the end of the award period.

Attachments Overview

- Attachment 1 – Approved and Not Approved Expenses
- Attachment 2 – Bridging Request for Non-NIH, Peer-Reviewed Federal Sources and National Foundation Sources

**Please review the [revised guidelines](#) to understand all program changes.