

Arkansas Children's Hospital Research Institute RESEARCH UPDATE



Early Imaging for Earlier Intervention



Dr. Xiawei Ou is using MRI technology find ways to help extremely low birth weight infants.

Annually, 30,000 extremely low birth weight (ELBW, birth weight less than or equal to 1,000 grams) infants are born in the US. While medical advances have led to increased survival for these infants, poor long-term neurodevelopmental outcomes remain prevalent.

In ELBW infants, long-term neurological and developmental problems are most highly associated with injury to the brain white matter. The ability to identify high-risk ELBW infants that could possibly benefit from early interventions to prevent poor outcomes would be significant.

One ACHRI researcher is using his knowledge and resources to help these infants. Dr. Xiawei Ou, a Magnetic Resonance Physicist in the Radiology department at ACH and UAMS, is using MRI technology to detect white matter injury in ELBW infants. Despite

being a relatively new investigator, his research projects have recently been recognized as extremely important by international, national, and local funding agencies.

Since the beginning of 2011, Dr. Ou's imaging research has led to him receiving three important grant awards to continue his groundbreaking research in extremely premature infant brain injury. In January, the Thrasher Research Foundation, a national research agency supporting clinical/translational pediatric research, named Dr. Ou the recipient of an Early Career Award grant. His project will evaluate the effects of permissive hypercapnia, a commonly used ventilation strategy on premature infants, on brain injury. In February, he was honored with the 2011 Marion B. Lyon New Scientist Development Award, ACHRI's premier grant for young investigators. Dr. Ou will use his Lyon Award to better identify high-risk ELBW infants at an early age by evaluating correlations between early MRI findings with neurodevelopmental outcomes. Next, the International Society for Magnetic Resonance in Medicine (ISMRM), a professional association furthering the development and application of magnetic resonance techniques, notified Dr. Ou in March that he would receive 1 of 2 prestigious Seed Grants to continue to develop his research in this area.

When evaluating the research proposals of young investigators such as Dr. Ou, granting agencies not only evaluate the researchers but the support they receive from their mentors and institutions. At ACH, Dr. Ou has received significant support in his research career development. Dr. Ou acknowledges the collaborations with ACH neuroradiologists led by Dr. Charles Glasier, Chief of Neuroradiology, in strengthening the clinical component of his research. Dr. Ou cites neonatologist Dr. Jeffrey Kaiser as leading him to the field of research regarding ELBW infants. The insights of Dr.

Kaiser regarding research on this patient population have been extremely helpful to Dr. Ou. Dr. Kaiser is Dr. Ou's mentor for the Lyon and ISMRM awards as well, and joins Dr. Thomas Badger, ACNC Director, and Dr. Michael Borrelli, UAMS Director of Radiology Research, among the mentors for the Dr. Ou's Thrasher award.

As a basic scientist, Dr. Ou devotes the majority of his time to research. Obtaining and sustaining research funding is vital to accomplishing professional and investigative goals. His recent funding successes have set a solid foundation for his work with evaluating ELBW infants to determine the need for early intervention for neurological and developmental concerns. Most importantly, though, his work may benefit the smallest of pediatric patients.

Dr. Richard Jacobs honored with 2011 Ruth Olive Beall Award

On April 8, Arkansas Children's Hospital recognized the service of several physicians who have changed the face of pediatric health care in the state at the 2011 Ruth Olive Beall Awards. In its fifth year, the hospital's premiere physician recognition program honored Dr. Richard F. Jacobs with the Ruth Olive Beall Award, which is presented to a physician who consistently displays the ACH Service and Behavioral Standards. Dr. Jacobs is the chairman of the Department of Pediatrics in the College of Medicine at the University of Arkansas for Medical Sciences and president of the Arkansas Children's Hospital Research Institute. He also holds the Robert H. Fiser, Jr., MD, Endowed Chair in Pediatrics and is pediatrician in chief at ACH. Ruth Olive Beall was the second superintendent of the Arkansas Children's Home and Hospital. Under her leadership, ACH weathered the storm of the depression, made record progress and expanded well beyond its original status. A complete list of honorees can be found at <http://www.archildrens.org/Ruth-Olive-Beall.aspx>.

Dr. Rosalia Simmen appointed as a Senior Editor

Dr. Rosalia C.M. Simmen, a Professor in the Department of Physiology & Biophysics and Senior Investigator in Developmental Biology, Arkansas Children's Nutrition Center/Arkansas Children's Hospital Research Institute, recently accepted an appointment to serve as Senior Editor of the *Journal of Endocrinology* for four years beginning October 2011. *Journal of Endocrinology*, the official journal of the European Society of Endocrinology publishes reviews and original molecular, biochemical and physiological studies of the structure and function of endocrine and endocrine-related systems. Dr. Simmen was an Editorial Board member of the journal for the past 4 years.



Janna Contorno

ACHRI Welcomes New Clinical Research Specialist

In March, Janna Contorno joined ACHRI as its new Clinical Research Specialist. Janna comes to ACHRI from the Center for Disease Detection in San Antonio, Texas, a private laboratory primarily engaged in government contracts. During her two years there, Janna was a Quality Control Cytotechnologist and Researcher. Returning to Arkansas, Janna will work with Janet Storment, Clinical Trials Administrator, on billing and marketing for the PCRU. Janna has a BS in Cytotechnology from UAMS and is a certified Cytotechnologist by the American Society for Clinical Pathology (CT, ASCP).

Introductions Are In Order: Dr. Mallik Rettiganti

When ACHRI opened in 1992 there were only a handful of researchers on campus. In fiscal year 2009, over 120 researchers prepared and submitted proposals for future research projects or actively participated in research. With this growth in the number of investigators on campus comes the challenge of ensuring that everyone is properly introduced to new researchers as they arrive on campus. Collaboration is the key to successful research, and a proper introduction is the key to collaboration.

Dr. Mallik Rettiganti joined ACH in January 2011. He came to the Department of Pediatrics after graduating in December 2010 with a PhD in Statistics from The Ohio State University.



Dr. Mallik Rettiganti

- **What are your research interests?**

I am interested in modeling overdispersed count data in clinical trials under various trial designs, power and sample size, survival analysis.

- **What are your plans for research projects in the near future?**

In the years to come, I would like to further investigate the appropriateness of distributions other than the negative binomial for modeling count data in clinical trials and extend the results to more complex trial designs such as cross-over designs.

- **Why do you think research is important?**

There are many things in the field of medicine that we are still unaware of and research gives an insight into knowing them and helps us make the right decisions and improve people's lives.

Upcoming ACHRI Investigator Meetings

Mark your calendars for the upcoming Investigator Meetings. The dates are May 4, August 23, and November 2. These meetings are at 11:30 at South Campus in the Brandon Auditorium. Slides from past meetings can be found at

<http://compoint/ACHRI/Investigator%20Meeting%20Slides/Forms/AllItems.aspx>.

Grant Writing Tip: Get ready for intramural grant season!

Spring has sprung so summer is almost here. By the end of summer, ACHRI will begin accepting applications for three of its intramural programs: ABI (8/1), CUMG (9/1), and Student and Clinical Staff (9/15). Getting started early on your application will help you submit a complete, competitive application and avoid a whirlwind of activity with little time to spare before the due date.

To help you get started, ACHRI will begin its series of presentations on these three intramural programs in May. Attending the meetings will allow you to understand the purpose of the programs. Applicant eligibility and application requirements will be discussed. The review and award notification processes will be addressed. Bring your ideas, questions, or a draft application.

ABI: May 17, 10:30am to 11:30 am, Brandon North A&B

CUMG: June 7, 10:30am to 11:30 am, Brandon North A&B

Student and Clinical Staff: June 21, 10:30am to 11:30 am, Brandon North A&B

If you have questions about the presentations, contact John Gregan (4-6296) or Amy Stalls (4-3627).

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.

- Donnelly DF, Kim I, Yang D, Carroll JL. Role of MaxiK-type calcium dependent K(+) channels in rat carotid body hypoxia transduction during postnatal development. *Respir Physiol Neurobiol*. 2011 Feb 25. [Epub ahead of print]
- Cole FS, Alleyne C, Barks JD, Boyle RJ, Carroll JL, Dokken D, Edwards WH, Georgieff M, Gregory K, Johnston MV, Kramer M, Mitchell C, Neu J, Pursley DM, Robinson WM, Rowitch DH. NIH Consensus Development Conference statement: inhaled nitric-oxide therapy for premature infants. *Pediatrics*. 2011 Feb;127(2):363-9. Epub 2011 Jan 10.

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.

Research HIPAA Corner: Looking at Patient Data before Getting IRB Approval

Question: You are contemplating your new research project. Before you get very far with your plans you want to make sure there are enough patients at ACH with the condition you plan to study to make your study worthwhile. You have access to Meditech, is it ok to go ahead and look through the medical records just to see how many would possibly qualify?

Answer: No, first you must complete a "Reviews Preparatory to Research" form and submit it to ACHRI. This form can be found on the ACHRI site in the forms area under "HIPAA Forms" or at http://achri.archildrens.org/resources/HIPAA_forms/ReviewsPrepform2.doc. This form will allow you to look at data, with certain conditions, for one year before it must be renewed.

If you have any questions or have any other Research HIPAA or Research Compliance questions you would like to see answered here, contact Margie Brackeen brackeenmargiei@uams.edu.

Recent Grant Awards and Submissions

Awards				
PI	Agency	Project Title	Project Period	Total Funding
Maya Lopez	Autism Speaks	Autism Treatment Network	1/4/2011-12/31/2013	\$420,000.00
Submissions				
PI	Agency	Project Title	Project Period	Total Funding
Patrick Casey	Boston Medical	Children's Health Watch	7/15/2011-12/14/2013	\$67,523.00
Lori Dean	NIH sub Univ. of Iowa	Genetic Screening of Infants with Hearing Loss	10/1/2011-9/30/2012	\$13,707.00

Mark Edwards	Office of Juvenile Justice and Delinquency sub LOVE Inc.	Southwest Little Rock Comprehensive Gang Reduction Project	11/1/2011-9/30/2012	\$38,005.00
Laura James	NIH/NICHD	Arkansas Center for Developmental and Analytical Pharmacology	1/1/2012-12/31/2016	\$3,588,869.00
Jill James	NIH/NICHD	Oxidative Stress and Epigenetic Dysregulation in Autism Brain	9/1/2011-8/31/2016	\$3,085,552.00
Maya Lopez	HRSA sub Massachusetts General Hospital	The Development of an Empirically Valid Measure of Health-Related Quality of Life for use as a Treatment Outcome Measure	11/1/2011-10/31/2013	\$19,999.00
Charles Lumpkin	St. Baldricks Foundation	Cisplatin and Direct Bone Regeneration	7/1/11-6/30/2012	\$126,791.00
Amir Mian	St. Baldricks Foundation	Effectiveness of Educational Modules: Fever-neutropenia Management in ED	7/1/2011-6/30/2012	\$80,690.00
Karen Redwine	NIH sub Akron Children's Hospital	Role of Vascular Mediator Ontogeny in Antihypertensive Responsiveness in Children	1/1/2012-12/31/2016	\$121,920.00
Jose Romero	NIH sub UAB	UAB BAA Application	6/1/2011-5/31/2016	\$1,134,145.50

Student & Clinical Staff Grants Submissions

PI	Agency	Project Title	Project Period	Total Funding
Ciji Arthur	ACHRI	Stenotrophomonas and Acinetobacter Infections in Critically Ill Children in Intensive Care Units	3/15/2011-3/14/2012	\$2,000.00
Katherine Irby	ACHRI	Heparin Activity as Measured by Anti-Factor Xa Levels Predicts the Need for ECMO Circuit Changes: A Retrospective Pediatric Study	4/1/2011-3/31/2012	\$2,000.00
Kimberly Street	ACHRI	Enteral Feeding Algorithm Implementation in the CVICU	6/1/2011-5/31/2012	\$2,000.00
Justin Vaughan	ACHRI	Airway Macrophages as Surrogate Markers for Beta-Agonist Responses in Human Lung	6/1/2011-5/31/2012	\$1,960.00

Team Up- Evidence Based Interventions for Children with Autism

The Team Up 2011: Evidence Based Interventions for Children with Autism Conference will be held May 19-21, 2011 at Holiday Inn - Airport, Little Rock, Arkansas. This conference will provide information on the common issues that impact the daily functioning of a child with autism as well as practical solutions for these issues. For more information, click [here](#).

Need Clinical Data From Meditech To Be Easily Accessible for Research?

Development of user-friendly databases containing patient data retrieved from Meditech is among the many services offered by the ACHRI/DOP Biostatistics Program. Jennie Stern, Clinical Systems Analyst, has experience with accessing data in Meditech and providing the data in databases that are user-friendly and easy to search and sort for IRB-approved research studies.

Under the direction of Dr. Todd Nick, the Biostatistics Program is dedicated to providing outstanding statistical and database support to researchers while advancing the reputation and research capacity on campus. Their services include grant development assistance with framing and refining research questions and reshaping the study design. In addition they can collaborate in creating a statistical analysis plan (SAP), develop a randomization plan, determine/justify sample size, and develop a data management and data collection plan. They can provide database management, statistical analysis, and interpretation, instruction and preparation of results for publication and preparation.

If you are interested in database development or other services offered by the Biostatistics Program, please contact Darcy Ewalt at 364-6638.

Writing and Editing Resources on Campus

Your work is worthwhile to the Arkansas Children's Hospital Research Institute and the Department of Pediatrics. Publishing and publicizing your accomplishments are essential obligations that we share with you. We also know that obtaining and maintaining funding requires good writing. These are the reasons why we offer ACHRI researchers and Department of Pediatrics faculty on the ACH campus editing and writing services. To learn more about these resources, visit <http://compoint/DOP/SWE/default.aspx>. You must be logged on to the UAMS network to access compoint.

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.

Funding Opportunities

Key words: Autism Spectrum Disorders

[State Implementation Planning Grants for Improving Services for Children and Youth with ASD \(HRSA\)](#)

Deadline: Letter of Intent (not required): April 18, 2011; Application: May 9, 2011

Eligibility: Non-profit organizations

Also see: [State Implementation Grants for Improving Services for Children and Youth with ASD](#)

Key words: Children's Health and Wellness

[Build-A-Bear Workshop Bear Hugs Foundation](#)

Deadline: Grant requests in the interest areas of children's health and wellness, domestic pets, literacy and education, and miscellaneous will be accepted through October 28, 2011

Eligibility: Non-profit organizations

Key words: Disadvantaged Youth

[Ruddie Memorial Youth Foundation – Evaluation Grants](#)

Deadline: Application: July 27, 2011

Eligibility: Non-profit organizations

Pediatric Research

Key words: Alcohol Research

[Program for Extramural/Intramural Alcohol Research Collaborations \(U01\) \(NIH\)](#)

Deadline: Opening: May 5, 2011; Application: February 5, June 5, and October 5; AIDS Application: May 7, September 7, and January 7 until May 8, 2013

Eligibility: Non-profit organizations

Key words: Alcohol Research

[Specialized Alcohol Research Centers \(P50\) \(NIH\)](#)

Deadline: Letter of Intent (not required): November 7, 2011; Application: December 7, 2011

Eligibility: Non-profit organizations

Also see: [Comprehensive Alcohol Research Centers \(P60\)](#)

Key words: Allergic Diseases

[Allergen Epitope Research and Validation Centers \(U19\) \(NIH\)](#)

Deadline: Letter of Intent (not required): June 22, 2011; Application: July 22, 2011

Eligibility: Non-profit organizations

Key words: Career Development

[Child Health Research Career Development Award \(CHRCDA\) Program \(K12\) \(NIH\)](#)

Deadline: Opening: April 26, 2011; Letter of Intent (not required): April 26, 2011; Application: June 21, 2011

Eligibility: Non-profit organizations

Key words: HIV Prevention, Treatment, and Care

[NIH/PEPFAR Collaboration for Implementation Science and Impact Evaluation \(R01\) \(NIH\)](#)

Deadline: Opening: May 7, 2011; Letter of Intent (not required): June 7, 2011; Application: July 7, 2011

Eligibility: Non-profit organizations

Key words: Mental Disorders

[Integrating Multi-Dimensional Data to Explore Mechanisms Underlying Mental Disorders \(RO1\) \(NIH\)](#)

Deadline: Opening: May 9, 2011; Letter of Intent (not required): May 9, 2011; Application: June 9, 2011

Eligibility: Non-profit organizations

Key words: Metabolomic Phenotyping

[Anchoring Metabolomic Changes to Phenotype \(P20\) \(NIH\)](#)

Deadline: Letter of Intent (not required): May 17, 2011; Application: June 17, 2011

Eligibility: Non-profit organizations

Key words: Minority Health

[NIMHD Resource-Related Minority Health and Health Disparities Research \(U24\) \(NIH\)](#)

Deadline: Letter of Intent (not required): May 8, 2011; Application: June 8, 2011

Eligibility: Non-profit organizations

Key words: Right Ventricular Function/Dysfunction and Disease

[Pulmonary Vascular-Right Ventricular Axis Research Program \(R01\) \(NIH\)](#)

Deadline: Opening: September 13, 2011; Letter of Intent (not required): September 13, 2011;
Application: October 13, 2011

Eligibility: Non-profit organizations

Key words: Training

[Short-Term Institutional Training Grant for Clinician Scientists in Pediatric Respiratory, Sleep and Hematology/Transfusion Medicine \(T35\) \(NIH\)](#)

Deadline: Opening: May 14, 2011; Letter of Intent (not required): May 16, 2011; Application: June 14, 2011

Eligibility: Non-profit organizations