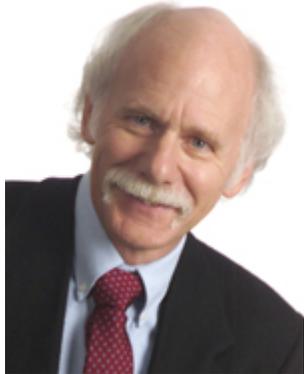


Oklahoma Innovations - OCAST's Official Newsletter

November 2014

OCAST SELECTS MATHER TO LEAD GOVERNING BOARD



Dr. Tim Mather of Oklahoma City is elected as chair and Rhonda Hooper of Oklahoma City is elected as vice-chair of the Oklahoma Science and Technology Research and Development Board (OSTRaD). The board serves as governing authority for the Oklahoma Center for the Advancement of Science and Technology (OCAST).

Mather, who previously served as vice-chair of the OCAST governing board, replaces Sherry Wise as chair, and Hooper replaces as vice-chair.

Terms for newly elected leaders begin January 1, 2015.

Dr. Mather is director of research administration for the Oklahoma Medical Research Foundation. He received his Ph.D. in biochemistry from the University of Oklahoma after earning degrees at Michigan State University and the University of Michigan.

Rhonda Hooper is president/CEO of Jordan Advertising, headquartered in Oklahoma City. She received her B.S. in journalism, advertising and marketing from Oklahoma State University. Hooper is an alumnus of Leadership Oklahoma and Leadership OKC as well as serves on numerous economic development and public service boards.



OCAST BOARD APPROVES FIVE INTERN PARTNERSHIPS TOTALING \$177,330

Five Intern Partnership applications have been approved for funding by the governing board for the Oklahoma Center for the Advancement of Science and Technology. Winning applicants were chosen from a group of 11. Total funding for the projects is \$177,330.

Interns are college students or college faculty who have focused on technology subjects, often in hard-to-find areas, and who agree to work with a technology-based company for up to two years. OCAST pays one-half of the cost of an undergraduate internship in a research and development or business setting.

The current round of awards represents cyber security, software engineering, energy and therapy devices.

Program goals include developing collaborations among business owners, university professors and undergraduate students. Some of the students become full-time employees with sponsoring companies on completion of their internships.

Recent program awards follow:

Cyber Security

Tulsa

- True Digital Security is conducting research on advanced persistent threats. Such threats are usually made by a group which may include a foreign government, with the capability and intent to target a specific entity. The firm will use two interns to develop a Client Side Attack Simulation to test and evaluate an organization's personnel, security products and procedures. The evaluation process will better prepare organizations to quickly determine how to respond to specific threats. Jerald Dawkins is principal investigator. **Award \$60,000**

Software Engineering

Tulsa

- One intern will be hired for one year by ABB Automation collaborating with the University of Tulsa. The project objective is to develop a component of a software framework to be integrated within the next generation framework of ABB products and solutions. The project is expected to strengthen current interactions between TU faculty and ABB technologists. John Hale is principal investigator. **Award \$29,275**

Energy

Tulsa

- The University of Tulsa, ABB Inc., Principal Investigator Kaveh Ashenayi and one student intern will work on development of a remote modular controller (REMC). The current series device marketed by ABB is a single process control unit. The new device will have expanded capability and processing power and it will be able to simultaneously monitor multiple processes. **Award \$29,902**

Therapy Devices

Tulsa

- Design of the next generation of compression therapy devices is the focus of a collaborative effort involving the University of Tulsa, Compression Solutions Inc. and one student intern. Kaveh Ashenayi is principal investigator. CSI designs and manufactures vascular therapy systems with cold compression. This project will

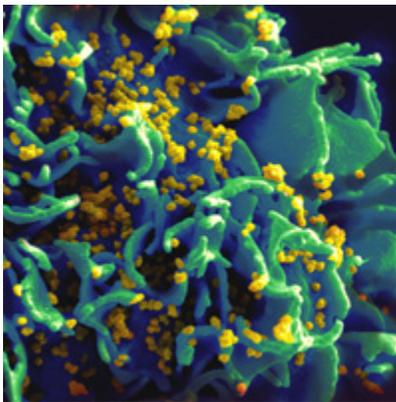
concentrate on wraps for compressing the body. Current products are made for compressing the elbow, knee, shoulder, hip, ankle and wrist. The new design will include the back. **Award \$29,953**

Energy

Oklahoma City

Principal Investigator Patrick McCann will oversee the work of two student interns who will focus on development of a silicon carbide high voltage motor inverter. ATC New Technologies is the organization and site where the work will be performed. Silicon carbide field effect transistors suitable for high voltage three phase motor inverters recently became commercially available. The gain in efficiency from silicon carbide inverters could reduce the need for complex liquid cooling systems in electric vehicles and industrial motor controllers. **Award \$28,200**

ADDITIONAL HEALTH RESEARCH PROJECTS AWARDED



Three additional Health Research applications have been approved for funding by the governing board for the Oklahoma Center for the Advancement of Science and Technology.

The additional group of awards were given in anti-obesity studies, acute lung injury and acute respiratory distress syndrome (ALI/ARDS) and T Cell acute lymphoblastic leukemia (T-ALL).

Anti-obesity study

- University of Oklahoma Health Sciences Center will conduct an anti-obesity study to determine whether enhancing energy spending in muscle can be applied to reduce body weight gain. Results of the study suggest a brain-derived neurotrophic factor mimic can enhance energy expenditure, preventing development of diet-induced obesity and improving insulin sensitivity. Chi Bun is principal investigator.

Acute lung injury and acute respiratory distress syndrome (ALI/ARDS) study

- Oklahoma State University is conducting a study on lung injury and acute respiratory distress syndrome (ALI/ARDS). The objective of this proposal is to investigate the functions of a novel type I cell pre-inflammatory mediator in acute lung inflammatory response. Lin Liu is principal investigator.

T cell acute lymphoblastic leukemia (T-ALL) and lymphoblastic lymphoma (T-LBL) study

- University of Oklahoma Health Sciences Center conducts a study on T cell acute lymphoblastic leukemia (T-ALL) and lymphoblastic lymphoma (T-LBL), two common childhood cancers. The project will systematically test that cell hyperactivity is a driver in T cell cancer. The long-term goal of the study is to define the roles of specific genes in these cancers. Principal investigator is Kimble Frazer.

FUNDING CYCLES SET TO OPEN

FY15 Health and OARS funding cycles are set to open in the coming months. Solicitation for the second FY15 funding cycle of the Intern Partnerships program is currently available on the OCAST [website](#) and applications may be initiated on [OKGrants](#) beginning on December 1, 2014.

Funding cycles and helpful hints are as follows:

Program	Health	OARS	Intern
Funding Cycle Opens	December 15, 2014	January 21, 2015	December 1, 2014
Due Date	March 25, 2015	March 4, 2015	March 4, 2015
Helpful Hints	Involve collaborators! Although co-investigators are not allowed, the most competitive proposals involve collaborators with key expertise important to the success of a project. From biostatisticians to cell biologists, engineers to research technicians, a strong team involves personnel with experience in a variety of fields crucial to helping a project succeed. When in doubt, include, name, and explain the addition of all collaborators on your project.	Make an economic impact! The purpose of the OARS program is to fund research that has real commercial potential and that will create a positive impact on Oklahoma's economy. Projects that simply propose research without a well-reasoned chance for economic impact are not competitive.	Focus on the student! Projects should focus upon the benefit to the undergraduate intern first and foremost. Reviewers want to see that interns are not being hired simply for inexpensive labor, but for the opportunity for real world education they may receive at the host company. What workplace skills will the student gain? How will this enhance his or her university education? How will this experience influence the intern's future career or educational goals? The student is one of the key players in an Intern Partnerships application, and the benefits to him or her should be well

		documented.
	<p>Start the application process early! A nonnegotiable deadline is in place for each program. Applications must be submitted through OKGrants, which has a registration process and various user roles that must perform specific actions on an application before it can be submitted. An e-mail notification is sent when applications are available on OKGrants and users may begin filling out their forms at that point. Interested applicants are encouraged to register for access to OKGrants well ahead of the deadline, as well as familiarize themselves with the website.</p>	

OMA SEEKS PRESIDENT AND CEO

The Oklahoma Manufacturing Alliance (OMA) board of directors is now accepting applications for the position of president and CEO.

A full job description and application guidelines are available at the following link:

www.okalliance.com/2014/07/position-presidentceo-oklahoma-manufacturing-alliance

Deadline for applications is December 3, 2014.

OCAST PROGRAMS CALENDAR	SBIR/STTR CALENDAR
FY15.1 Intern awards announced: November 18, 2014	National Science Foundation : December 2, 2014
FY15 OARS solicitation opens: January 21, 2015	National Institutes of Health : December 5, 2014
FY15 Health solicitation opens: February 2, 2015	Department of Defense : Pre-Release – December 12, 2014; Open – January 12, 2015; Close – February 18, 2015
OARS application deadline: March 4, 2015	Department of Energy (Phase I / Phase II) : February 3, 2015
FY15.2 Intern application deadline: March 4, 2015	
Health application deadline: March 25, 2015	
Health, OARS, FY15.2 Intern awards announced: June 16, 2015	

OKLAHOMA INNOVATIONS RADIO SHOW

Dr. David Fields, [Harold Hamm Diabetes Center](#), is an innovator in understanding how diseases are passed from mothers to children. His research interests include body composition (predominately in newborns), fetal origins of disease and ethnic differences in body composition and insulin sensitivity.

[Listen to the show.](#)

The [Alzheimer's Association Oklahoma Chapter](#) is one of over 70 Alzheimer's Association chapters serving communities across the United States. The association advances research to end Alzheimer's and dementia while enhancing care for those living with the disease. It is the world's leading voluntary health organization in Alzheimer's care, support and research.

[Listen to the show.](#)

Dr. Stephen Prescott, president of the [Oklahoma Medical Research Foundation](#) discusses issues regarding Ebola: how you control an epidemic when you can't yet cure the disease and what OMRF is doing to make unlimited amounts of protective antibodies to infectious diseases.

[Listen to the show.](#)

Alana and Bryan Welm are a husband-and-wife research team whose work at the [Oklahoma Medical Research Foundation](#) (OMRF) centers on breast cancer. Both scientists are interested in "precision medicine," which uses genetic information to tailor treatments for individual cancer patients. Specifically, the Welms have done pioneering work in the field of xenografts, which involves transplanting human tumors into laboratory models to study cancer development.

[Listen to the show.](#)

To hear more interviews on *Oklahoma Innovations* visit the [OCAST website](#) or listen weekly on:

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Ardmore - Saturday at 6 a.m. - KLCU 90.3 FM
Chickasha - Saturday at 6 a.m. - KCCU 100.1 FM
Clinton - Saturday at 6 a.m. - KYCU 89.1 FM
Lawton/Fort Sill - Saturday at 6 a.m. - KCCU 89.3 & 102.9 FM
Oklahoma City - Sunday at 5 p.m. - KTOK AM 1000
Tulsa - Sunday at 8 a.m. - KRMG AM 740/FM 102.3
Wichita Falls, TX - Saturday at 6 a.m. - KMCU 88.7 FM