
Ohio State's Ross Heart Hospital expands

The Ohio State University Richard M. Ross Heart Hospital, one of the nation's first free-standing, full-service academic heart hospitals, is opening two additional patient-care floors this month, adding 60 beds to care for those with heart and vascular disease.

"Since the Ross Heart Hospital opened, it has provided our staff with the patient care environment and technical resources to maximize their expertise," said Charles Bush, MD, Ross Heart Hospital medical director. "Our staff has responded by providing patients with highly effective and innovative personalized care that has created increased demand for our services."

Ohio State physicians are developing and applying the most advanced technologies to provide customized approaches for the unique cardiac needs of each patient. Recent innovations include:

Ventricular partitioning device implant – A central Ohio man became the first person in the United States, and only the 16th worldwide, to receive a heart implant designed to improve the heart's pumping action and help manage congestive heart failure symptoms.

Blood pressure monitoring device trial – Physicians are leading a new clinical trial to treat hypertension by implanting a medical device that stimulates the body's own natural system to lower blood pressure.

Stem cell research – Scientists have determined that stem cells transplanted into a damaged heart can increase the presence of oxygen at the site of injury, suggesting that such transplants might someday be used as therapy after heart attacks and for other diseases characterized by lack of oxygen.

Where to get help: From routine diagnostic care to implantation of life-saving heart pumps, robot-assisted surgical procedures and heart transplants, **Ohio State's Ross Heart Hospital** offers the full spectrum of heart and vascular care.



New Employees

Please join us in welcoming these new employees to the DHLRI. Contact Kathleen.McNally@osumc.edu to announce a new employee in the next issue.

- Agnes Awomoyi- Post Doctoral Fellow, PI: Mark Wewers
- Sereana Howard Dresbach- Program Coordinator, Pulmonary Admin. Office
- Arti Parihar- Post Doctoral Researcher, PI: Andrea Doseff
- Jessica Smith- Clinical Research Coordinator, Pulmonary Clinic Trials
- Mingjie Liu- Post Doctoral Researcher, PI: Daren Knoell
- Ryan Riley- Research Assistant1, PI: Fredrick Villamena
- Robert Prosak- Research Assistant1, PI: Fredrick Villamena
- Pengfei Zhang, Post Doctoral Researcher, PI: Mani Vannan

Cardiovascular Imaging Research Symposium June 25th

A Cardiovascular Imaging Research Symposium will be held on June 25 from 12:00-5:00p.m. in the BRT. The meeting is intended to provide an overview of ongoing imaging research within the DHLRI and information on the imaging facilities and capabilities available at OSU.

The symposium will begin with poster presentations at noon, followed by a special 1pm Discovery Series Lecture by Dr. Jeffrey L. Duerk, Chairman of Biomedical Engineering at Case Western Reserve University, and a series of talks by OSU cardiovascular imaging researchers.

Imaging plays an increasingly important role in basic and clinical research in cardiovascular medicine and biology. This symposium is intended to provide an overview of ongoing imaging research within the DHLRI, and information on the imaging facilities and capabilities available at OSU.



Kudos

Selvendiran Karuppaiyah, Ph.D., supporting research in antitumor therapeutics for ovarian cancer, received an award from The Kaleidoscope of Hope Foundation (KOH). They presented awards to leading researchers, institutions, and advocates involved in the treatment and detection of ovarian cancer, the fourth leading cause of cancer death among women.

Sudarshan Seshadri and **Raquel Raices** on graduating from the Biophysics and Integrated Biological Sciences Graduate Programs respectively.

Vincent Corvest (PhD) was awarded an AHA post-doctoral Fellowship (\$88,000, 07/01/2008-06/30/2009). The title of his project is “Assembly of mitochondrial c-type cytochromes: emergence of novel redox components”.

Rosario Barbieri (PCMB graduate student) was awarded a United Mitochondrial Disease Foundation (UMDF) symposium scholarship (\$500) to attend the UMDF conference: “Indy 2008, setting the pace of mitochondrial medicine” in Indianapolis, June 25-28.

Sara Cline (PCMB graduate student) was awarded a Ray Travel grant (\$750) to attend the Gordon Research Conference “Mitochondria and Chloroplasts”, U. of New England, Biddeford, August 10-15.

Iris Meier (PI) and **Patrice Hamel** (co-PI) were awarded an Ohio Plant Biotechnology Consortium research grant (\$50,000, July 1, 2008- June 30, 2010). The title of the project is: “Exploration of cellular functions of organelle coiled-coil proteins in plant model systems: Do plastids and mitochondria have a cytoskeleton-like structure?”

Paulo Gotardo, B.S. whose work entitled, “A Novel IVD Index for the Detection of Intraventricular Dyssynchrony from CMR” under the direction of Dr. Subha V. Raman was awarded Best Presentation in Bioimaging at the OSU Biomedical Engineering Conference, Student Research Session on May 2, 2008.

Congratulations to **Shelly Kline** from Dr. Parinandi's research lab who won the Ohio State University Student Employee of the Year. She was one of 60 students nominated for this award. We are really proud of Shelly and thankful for all her hard work in the lab!

The top two teams in the recent Deloitte Business Plan Competition hosted by the OSU Center for Entrepreneurship included graduate students working within the DHLRI. The winning team, NanoMed, included **Mihaela Jekic**; a PhD student in biomedical engineering, and second place team XMRI included **Eric L. Foster**, a MS student in mechanical engineering. Congratulations Mihaela and Eric!

Dr. Charles Wooley Celebration of Life Ceremony

A celebration of life ceremony for Charles F. Wooley, MD (April 17, 1929 to February 15, 2008), professor emeritus of Internal Medicine, will take place June 23 from 4-5 p.m. in the Davis Heart and Lung Research Institute Auditorium (Room 170).

A faculty member from 1961 until he assumed emeritus status in 1992, Wooley was instrumental in the founding of teaching labs and libraries at Ohio State. He was a pioneer in the use of sound and ultrasound in diagnosing heart and tissue disease, in the application of advanced diagnostic techniques to heart valve anomalies, and in the identification of unique genetic characteristics and markers related to specific heart disease.

While teaching and mentoring thousands of Ohio State medical students and young physicians, Wooley imparted not only medical knowledge but also a keen sense of personal and social responsibility. More recently, he researched and shared historical perspectives regarding the evolution of clinical medicine and its noteworthy practitioners.

New Awards: Federal, State, and Foundations

PI: Mark Angelos
Co-I: Periannan Kuppusamy
Sponsor: Society for Academic Emergency Medicine
Title: *Studies of low flow reperfusion in the heart*
Start date: 07/01/2008 End date: 06/30/2009

PI: Max Chotani
Sponsor: NHLBI, Award No. 1 R21 HL088087-01A1
Title: *Mechanism of vascular alpha2C-adrenoceptor mobilization*
Start date: 03/04/2008 End date: 02/28/2009

PI: Juan Crestanello
Co-I: Jay Zweier
Sponsor: Thoracic Surgery Foundation for Research
Title: *Post conditioning, free oxygen radical generation and mitochondrial function*
Start date: 07/01/2008 End date: 06/30/2009

PI: Hiranmoy Das
Co-PIs: Periannan Kuppusamy
Sponsor: NIAMS, Award No. 1 K01 AR054114-01A2
Title: *KLF2 as a novel regulator for monocyte activation and function*
Start date: 04/17/2008 End date: 03/31/2009

PI: Brad Rovin
Co-I: Leena Hiremath
Sponsor: University of California San Francisco
Title: *Immune Tolerance Network*
Start date: 01/01/2008 End date: 08/31/2008

PI: Sashwati Roy
Co-PIs: Chandan Sen, Narasimhan Parinandi, Gayle Gordillo
Sponsor: NIDDK, Award No. 1 R01 DK076566-01A2
Title: *Mechanisms underlying impaired diabetic wound healing*
Start date: 04/01/2008 End date: 01/31/2009

New Industry Support

PI: James Allen
Sponsor: InterMune
Title: PIPF-012 study
Start date: 04/07/2008 End date: 06/30/2011

PI: Ragavendra Baliga
Sponsor: CardioKine, Inc.
Title: BALANCE
Start date: 04/24/2008 End date: 06/30/2010

PI: Ragavendra Baliga
Sponsor: New England Research Institutes
Title: TOPCAT
Start date: 03/14/2008 End date: 06/30/2011

PI: Glen Cooke
Sponsor: Eli Lilly
Title: TABM SWAP
Start date: 04/28/2008 End date: 12/31/2012

PI: Veronica Franco
Sponsor: Cheetah Medical
Title: Cheetah
Start date: 04/07/2008 End date: 01/31/2011

PI: Garrie Haas
Sponsor: Corventis Medical
Title: MUSIC
Start date: 03/14/2008 End date: 01/31/2010

PI: Garrie Haas
Sponsor: St. Jude Medical
Title: Visiting scholar agreement
Start date: 01/01/2008 End date: 12/31/2008

PI: Selvendiran Karuppaiyah
Mentor: Periannan Kuppusamy
Sponsor: Kaleidoscope of Hope
Title: Safe, targeted antitumor therapeutics (STAT3 inhibitors) for ovarian cancer
Start date: 03/10/2008 End date: 03/09/2009

PI: Rami Khayat
Sponsor: Respiroics
Title: The prevalence and implications of obstructive sleep apnea in the population of a wound center
Start date: 04/11/2008 End date: 01/31/2011

PI: Charles Love
Sponsor: Spectranetics Corp.
Title: LExICon Study
Start date: 04/07/2008 End date: 04/06/2009

PI: Ernest Mazzaferri
Sponsor: Abiomed
Title: PROTECT II
Start date: 02/28/2008 End date: 01/31/2010

PI: Subha Raman
Sponsor: VPDiagnostics
Title: MRI-PlaqueView software license agreement
Start date: 03/08/2008 End date: 03/07/2009

PI: Sashwati Roy
Co-I: Savita Khanna
Sponsor: Carotech Bhd
Title: Porcine burn study
Start date: 01/02/2008 End date: 01/31/2011

PI: Mani Vannan
Sponsor: Siemens
Title: Cardiovascular ultrasound of 2D imaging and volumetric imaging
Start date: 03/03/2008 End date: 03/02/2011



Recent Publications

Ai J, Druhan LJ, Hunter MG, Loveland MJ, Avalos BR.
LRG-accelerated differentiation defines unique G-CSFR signaling pathways downstream of PU.1 and C/EBPepsilon that modulate neutrophil activation. *J Leukoc Biol.* 2008 May; 83(5):1277-85. Epub 2008 Feb 13.

Birmingham DJ, Rovin BH, Shidham G, Bissell M, Nagaraja HN, Hebert LA.
Relationship between Albuminuria and Total Proteinuria in Systemic Lupus Erythematosus Nephritis: Diagnostic and Therapeutic Implications. *Clin J Am Soc Nephrol.* 2008 May 1. [Epub ahead of print]

Butchar JP, Parsa KV, Marsh CB, Tridandapani S.
IFNgamma enhances IL-23 production during Francisella infection of human monocytes. *FEBS Lett.* 2008 Apr 2; 582(7):1044-8. Epub 2008 Mar 3. [PubMed - in process]

Exline MC, Crouser ED.
Mitochondrial mechanisms of sepsis-induced organ failure. *Front Biosci.* 2008 May 1;13:5030-41. [PubMed - in process]

Del Rio CL, McConnell PI, Kukielka M, Dzwonczyk R, Clymer BD, Howie MB, Billman GE. Electrotonic remodeling following myocardial infarction in dogs susceptible and resistant to sudden cardiac death. *J Appl Physiol.* 2008 Feb; 104(2):386-93.

Jekic M, Foster EL, Ballinger MR, Raman SV, Simonetti OP. Cardiac function and myocardial perfusion immediately following maximal treadmill exercise inside the MRI room. *Journal of Cardiovascular Magnetic Resonance* 2008, 10:3 (15 January 2008)

Jones CI 3rd, Han Z, Presley T, Varadharaj S, Zweier JL, Ilangovan G, and Alevriadou BR. Endothelial cell respiration is affected by the oxygen tension during shear exposure: Role of mitochondrial peroxynitrite. *Am J Physiol Cell Physiol*. 2008 May 14.

Kuhn DE, Nuovo GJ, Martin MM, Malana GE, Pleister AP, Jiang J, Schmittgen TD, Terry AV Jr, Gardiner K, Head E, Feldman DS, Elton TS. Human chromosome 21-derived miRNAs are overexpressed in down syndrome brains and hearts. *Biochem Biophys Res Commun*. 2008 Jun 6;370(3):473-7.

Kuhn DE, Martin MM, Feldman DS, Terry AV Jr, Nuovo GJ, Elton TS. Experimental validation of miRNA targets. *Methods*. 2008 Jan;44(1):47-54. Review.

Lin HY, Raman SV, Chung YC, Simonetti OP. Rapid phase-modulated water excitation steady-state free precession for fat-suppressed cine cardiovascular MR. *Journal of Cardiovascular Magnetic Resonance* 2008, 10:22 (13 May 2008)

Mays TA, Binkley PF, Lesinski A, Doshi AA, Quaile MP, Margulies KB, Janssen PML, Rafael-Fortney JA. Claudin-5 levels are reduced in human end-stage cardiomyopathy. *J Mol Cell Cardiol*. 2008, in press

Parsa KV, Butchar JP, Rajaram MV, Cremer TJ, Gunn JS, Schlesinger LS, Tridandapani S. Francisella gains a survival advantage within mononuclear phagocytes by suppressing the host IFN γ response. *Mol Immunol*. 2008 May 29.

Periasamy M, Janssen PML. Molecular basis of diastolic dysfunction. *Heart Fail Clin*. 2008 Jan;4(1):13-21. Review.

Roy S, Khanna S, Rink C, Biswas S, Sen CK. Characterization of the acute temporal changes in excisional murine cutaneous wound inflammation by screening of the wound-edge transcriptome. *Physiol Genomics*. 2008 May 6. [Epub ahead of print]

Schmittgen TD, Lee EJ, Jiang J, Sarkar A, Yang L, Elton TS, Chen C. Real-time PCR quantification of precursor and mature microRNA. *Methods*. 2008 Jan;44(1):31-8. Review.

Wang H, Kohr MJ, Traynham CJ, Wheeler DG, Janssen PML, Ziolo MT. Neuronal Nitric Oxide Synthase Signaling within Cardiac Myocytes Targets Phospholamban. *Am J Physiol Cell Physiol*. 2008, in press.

To submit news items, for more information, or to unsubscribe, contact the editors: Kathleen.McNally@osumc.edu and Colette.Tornik@osumc.edu. The newsletter is also available online at <http://heartlung.osu.edu>.

