

DHLRI

FYI



DOROTHY M. DAVIS
HEART & LUNG
• RESEARCH INSTITUTE •

THE NEWSLETTER OF THE DAVIS
HEART AND LUNG RESEARCH
INSTITUTE AT OSU

May 2005

Cardiac MRI Expert Comes to OSU Medical Center

Orlando “Lon” Simonetti, PhD arrives at the OSU Medical Center as one of the country’s leading scientists and researchers in the field of clinical cardiac magnetic resonance imaging (MRI). Ending a five-year search, members of the Department of Internal Medicine, Division of Cardiovascular Medicine, Department of Radiology, Ross Heart Hospital, Biomedical Engineering Center, and DHLRI identified Dr. Simonetti as the lead candidate to direct research in this critical emerging technology.



*Lon Simonetti, pictured here with
Institute Director Jay Zweier*

Dr. Simonetti is a biomedical engineer who completed his MS in biomedical engineering at OSU in 1985 and his PhD at Case Western Reserve in 1992. Since that time, he has risen to become a worldwide leader in the rapidly evolving field of cardiovascular magnetic resonance (CMR) research and development. Prior to joining us at Ohio State, he served as the director of cardiovascular magnetic resonance research within the United States for Siemens and was based in Chicago at Northwestern University. He is world renowned for his scientific productivity coupled with collaborations of investigators at academic centers around the world.

Many of Dr. Simonetti’s publications represent breakthrough papers which now define the current state of cardiac MR techniques and how they can be applied to obtain critical clinical information in patients with cardiovascular disease. He is recognized as one of the very few scientists and engineers in the critical emerging areas of cardiac MR and CT research who has both the qualities of strong technical knowledge and innovation, along with focused programs in cardiovascular research applications. As such, he is uniquely qualified to meet our needs here within the OSU Heart Center.

Cardiovascular MRI System Operational in Ross Heart Hospital



Installation of a new Siemens Avanto MRI system in the Ross Heart Hospital was completed on April 8. Subha V. Raman, MD, and new faculty member Orlando P. Simonetti, PhD, will co-direct clinical operations and cardiovascular imaging research on this state-of-the-art 32-channel, 1.5 Tesla MRI system. The new magnet shares a control room and technical staff with a Siemens Sensation 64-slice CT system, representing the latest in CT technology designed specifically for cardiovascular imaging. This integrated cardiovascular MR and CT service within an academic heart hospital is unique to OSU, and opens

up new opportunities for research. Projects are already underway to investigate and define how these new non-invasive imaging technologies will play a role in diagnostic cardiology.

New York Post Article Features Abraham Clinical Study

An April 13 New York Post article described the first U.S. heart-disease patient implanted with a device developed through a multi-center clinical study that involved William Abraham, MD. A 70-year-old retired construction worker became the first U.S. heart patient to receive a surgical implant in a clinical test of a device that could substantially improve life for some heart patients.

The device, called the Optimizer, is designed to help patients with moderate to severe heart failure. It is implanted under a patient's collarbone and uses electrical impulses to make the heart beat stronger. The Optimizer device is also unique because it uses a rechargeable battery, which is expected to give it a life span of 30 to 40 years and allows the patient to recharge the battery every week. A defibrillator has a battery life of four to seven years while the pacemaker has a life span of five to eight years, "depending on its use," said Dr. Abraham, who is serving as the co-principal investigator of the multi-center clinical study.

APS Awards Best Reviewer Honor to Sen

At the 2005 FASEB conference in San Diego, The American Physiological Society (APS) recognized the outstanding editorial contribution of Chandan Sen to Physiological Genomics.

John W. Wolfe Professorship in Cardiovascular Research Established

The Ohio State University Board of Trustees has accepted a gift of \$1 million to establish the John W. Wolfe Professorship in Cardiovascular Research. The gift comes from the Robert F. Wolfe and Edgar T. Wolfe Foundation of Columbus.

The fund supports a professorship to be held by a nationally eminent physician/researcher in cardiovascular medicine, to be selected by the director of the Dorothy M. Davis Heart and Lung Research Institute (DHLRI).

"A gift of this magnitude will allow us to attract a scientist of the highest caliber to join our interdisciplinary team of clinician- and basic researchers dedicated to improving life through the combination of research and patient care," said Dr. Jay Zweier, director of the DHLRI. "We are very grateful for the Wolfe foundation's generous support and vote of confidence in Ohio State medical research."

The gift honors John W. Wolfe, who became chairman of the Dispatch Printing Co. in 1975. Wolfe was an instrumental community leader in the establishment of the Arthur G. James Cancer Hospital and Richard J. Solove Research Institute as well as the Health Coalition of Central Ohio. He died in 1994.

DHLRI 2nd Floor Conference Room

Due to construction of a walkway bridge between DHLRI and the new Biomedical Research Tower (BRT) across the street, the Institute's second floor conference room (215) will no longer be available, tentatively as of January 2006. A hallway from the walkway to the main DHLRI lobby will be built in most of the space currently occupied by the conference room. We will distribute more information and final timelines as we receive the information.

Cheryl Kulmala Selected as Employee of the Month



Brad Harris presents the Employee of the Month Award to Cheryl Kulmala

The Office of Health Sciences has selected Cheryl Kulmala as the April 2005 Employee of the Month. Brad Harris, COMPH Chief Administrative Officer, presented the award at a reception in Cheryl's honor on April 8.

Cheryl is known as resourceful and dedicated, and for her ability to maintain composure and good humor under stressful circumstances. She has been with the University for 27 years. Her current role is as Assistant to the Associate Director for Nanotechnology and Technology Commercialization at the Institute.

The Employee of the Month Award is given in recognition of outstanding contributions to the mission of the OSU Medical Center. Cheryl's hard work and dedication have long been recognized and appreciated by her coworkers. Congratulations, Cheryl!

Institute Hires New Business Manager

Karel Smith has accepted the Institute's Business Manager position, formerly held by Lorri Fowler who has recently been promoted to Administrative Director. Karel has been with The Ohio State University for 14 years. She currently is an accountant at OSU's Comprehensive Cancer Center (CCC).

Karel's first day will be Monday, May 9. Her office will be in room 110B; you can reach her by calling 247-7797. Please join the Institute in welcoming Karel!

Information Systems Changes and New Staff

Congratulations to Jack Frost, who has accepted new responsibilities as the manager of the Server Support Team (SST) for the OSU Medical Center. Jack will remain in the Institute for high level support throughout the rest of the year. Michael Becker, who recently received his Masters Degree in Electrical Computer Engineering, left the Institute in March to begin his new career and will be succeeded by Whitney Vernier beginning May 2.

Whitney Vernier has been named the new LAN Administrator for the Institute. Whitney most recently has held the position of Systems Specialist for the OSU Office of Human Resources. She brings with her a vast knowledge of IT support as well as the ability to initiate and coordinate system improvements. Whitney will be the primary contact for DHLRI computer issues; you can reach her by calling 247-7685. Please join the Administrative Team in congratulating Whitney on this promotion and her new role for the Institute!



May Programs

May 4: DHLRI Discovery Series: *"The Role of Apoptosis in the Multiple Organ Failure of Sepsis"*; Richard Hotchkiss, MD; Professor of Anesthesiology, Medicine, and Surgery, Washington University School of Medicine; Noon, 170 Davis Heart & Lung. CME credit offered.

May 6: Research in Progress; Nicanor Moldovan, PhD, Cardiology, Ophthalmology, Biomedical Engineering Center.*

May 6: “New Strategies in the Management of Atrial Fibrillation”; 8:00 AM - 2:30 PM, Ross Auditorium. Register online at <http://ccme.osu.edu>.

May 10: Cardiovascular Medicine Research Lunch: “*Cardiovascular Disease in the Elderly: Lessons from the Cardiovascular Health Study*”; Nanette Wenger MD, Emory University; Noon, Ross Auditorium. Register online at <http://ccme.osu.edu>.

May 13: Research in Progress; Ronald Glaser, PhD, Molecular Virology, Immunology, and Molecular Genetics.*

May 20: OSU MedNet 21: “Pulmonary Arterial Hypertension”; Curt Danials and Namita Sood. Live webcast (<http://ccme.osu.edu>). Noon. CME credit offered.

May 24: OSU MedNet 21: “Hypertension and Cardio-Renal Continuum”; Anil Agarwal and William Abraham. Live webcast (<http://ccme.osu.edu>). Noon. CME credit offered.

May 25: The Heart Club of Central Ohio: “*Congestion and Outcomes in Chronic Heart Failure: The Role of Ambulatory Hemodynamic Monitoring*”; Robert Bourge MD, University of Alabama, Birmingham; 6:30 PM, Ross Auditorium. Register online at <http://ccme.osu.edu>.

May 27: Research in Progress; Chaity Chaudhury, PhD, Immunology.*

**Research in Progress presentations are held at noon on Fridays in room 165 Davis Heart & Lung.*

Building Safety Training Courses Schedule

All COMPH/OHS faculty, students and staff who are located in college of medicine/health sciences buildings (this includes DHLRI and TMRF) are required to attend a one hour, one time only training session on building safety. If you’ve yet to do so, please plan on attending the course on Tuesday, June 7 at 1:00 in 107 Hamilton Hall. No pre-registration is required.

If you have questions about this session, call Adrienne Frosthalm at 292-7747 (frosthalm.1@osu.edu).



Recent Publications

Binkley PF, Nuziatta E, Liu-Stratton Y, Cooke G. A polymorphism of the endothelial nitric oxide synthase promoter is associated with an increase in autonomic imbalance in patients with congestive heart failure. *Am Heart J* 2005; 149: 342-348.

Blaser, B.W., Roychowdhury, S., Kim, D.J., Schwind, N.R., Bhatt, D., Yuan, W., Kusewitt, D.F., Ferketich, A.K., Caligiuri, M.A., and Guimond, M. Donor derived IL-15 is critical for acute allogeneic graft-versus-host disease. *Blood* 105:894-901, 2005.

Bras, I.D., Gemensky-Metzler, A.J., Kusewitt, D.F., Colitz, C.M., and Wilkie, D.A. Immunohistochemical characterization of a malignant intraocular teratoid medulloepithelioma in a cockatiel. *Veterinary Ophthalmology* 8:59-65, 2005

Cardounel AJ, Xia Y, Zweier JL. Endogenous methylarginines modulate superoxide as well as nitric oxide generation from neuronal nitric-oxide synthase: differences in the effects of monomethyl- and dimethylarginines in the presence and absence of tetrahydrobiopterin. *J Biol Chem.* 2005 Mar 4;280(9):7540-9.

Colitz, C.M., Bomser, J.A., and Kusewitt, D.F. The endogenous and exogenous mechanisms for protection from ultraviolet irradiation in the lens. *International Ophthalmology Clinics* 45:141-155, 2005.

J.B. Haun, W.M. Baldwin III and B.R. Alevriadou, "Clearance of complement by human vascular endothelial cells: Effects of hypoxia/reoxygenation and IL-1b activation", *Transpl Int* 18:475-482, 2005.

Henry JC, Bonar MM, Kearns PN, Cui H, Mutchler MM, Martin MV, Orsini AR, Elford HL, Bush CA, Zweier JL, Cardounel AJ. Inhibition of Ribonucleotide Reductase Reduces Neointimal Formation Following Balloon Injury. *J Pharmacol Exp Ther.* 2005 Apr 6; 1-7

Jin M, Drwal G, Bourgeois T, Saltz J and Wu H: Distinct Proteome Features of Plasma Microparticles. *Proteomics.* Vol. 5, Apr 12 [Epub ahead of print], 2005.

A Nair, B Michael, H Hiraragi, S Fernandez, G Feuer, K Boris-Lawrie, M Lairmore. Human T Lymphotropic Virus Type 1 Accessory Protein p12 Modulates Calcium-Mediated Cellular Gene Expression and Enhances p300 Expression in T Lymphocytes. *Aids Research And Human Retroviruses.* 21: 273-284, 2005.

Savagner, P., Kusewitt, D.F., Carver, E.A., Magnino, F., Choi, C., Gridley, T., and Hudson, L.G. Developmental transcription factor slug is required for effective re-epithelialization by adult keratinocytes. *Journal of Cellular Physiology* 202:858-866, 2005.

Wu H, Jin M, Marsh C: Towards Functional Proteomics of Alveolar Macrophages (invited review). *American Journal of Physiology- LCMP.* 288: 585-595, 2005.

Zhang, H, Zborowski, M., Williams, P S., Chalmers, J. Establishment and implications of a characterization method for magnetic nanoparticles using Cell Tracking Velocimetry and magnetic susceptibility modified solutions. *Analyst,* 130:514 – 527. 2005.

Zuo L, Clanton TL. Reactive Oxygen Formation In The Transition To Hypoxia In Skeletal Muscle. *Am J Physiol Cell Physiol.* 2005 Mar 23; [Epub ahead of print]

New Awards

PI: Clark Anderson
Title: FcRn Binds and Transports Albumin
Sponsor: NIAID (R01)
Amount: \$1,812,688
Start Date: 4/1/2005 End Date: 12/31/2009

PI: Sandor Gyorke
Title: Controlled and Uncontrollable Calcium Release in Heart
Sponsor: NHLBI (R01)
Amount: \$1,842,020
Start Date: 5/01/2005 End Date: 4/30/2010

PI: Periannan Kuppusamy
Co-PI: Jay Zweier
Title: Novel methods for in vivo imaging of tissue oxygenation
Sponsor: NIBIB (R01)
Amount: \$1,076,400
Start Date: 4/01/2005 End Date: 1/31/2009

PI: Yunbo Li
Title: Induction of cellular antioxidants and cardioprotection
Sponsor: NHLBI (R01)
Amount: \$560,625
Start Date: 4/01/2005 End Date: 3/31/2007

PI: James O'Brien
Co-Mentors: Clay Marsh, Stanley Lemeshow
Title: The obese critical III: Process and outcome disparities
Sponsor: NHLBI (K23)
Amount: \$520,992
Start Date: 4/15/2005 End Date: 3/31/2009

For more information on this newsletter, contact the editor, Chris Brakenbury, at 247-7155 or brakenbury-1@medctr.osu.edu. The newsletter is also available online at <http://heartlung.osu.edu>. To unsubscribe, please contact Chris via e-mail.