



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

March 2006

State of the Medical Center Address

Dr. Fred Sanfilippo gave his sixth annual State of the Medical Center address on January 26. He presented a recap of medical center progress since his arrival 5 1/2 years ago and a glimpse of the agenda for the next several years.

For The Ohio State University Medical Center, the rewards of strategic planning – across all mission areas of patient care, research and education – point to significant progress toward a lofty goal set just four years ago: to rank among the top quartile of academic medical centers by 2008 as measured by nationally accepted metrics. “The past two years in particular, we have really focused on processes. The fundamental strategy to grow, leverage medical center assets and develop a high-performance culture is still the focus for the medical center,” said Sanfilippo, senior vice president and executive dean for health sciences, dean of the College of Medicine and CEO of OSU Medical Center. “Because of that focus, we have made significant progress and have seen some remarkable achievements.”

Next up for the medical center are two monumental efforts: a 10-plus-year master space plan, marked by a substantial cancer program expansion, and making progress on a \$500 million fund-raising campaign that was announced Nov. 2. Also, programs in cancer, heart care, imaging, transplantation, critical care and neuroscience have been identified as signature programs intended to spearhead growth in research, clinical care and educational activities. These programs, combined with Ohio State’s strengths in genetics, bioinformatics and behavioral research, are expected to have national impact on the advancement of personalized health care.

This summary was condensed from an article by Emily Caldwell of Medical Center Communications. To see the complete article, and for a link to the presentation slides, visit <http://medicalcenter.osu.edu/mediaroom/press/article.cfm?ID=2456>.

Article Draws International Attention

An article published in the *Proceedings of the National Academy of Sciences* by Institute investigators has recently drawn the attention of numerous international media outlets.

First author, Anna Bratasz, with assistance from research assistant Nathan Weir led the research efforts on Dr. Periannan Kuppusamy’s team that helped determine that an aspirin derivative NCX-4016 re-sensitizes ovarian cancer cells *in vitro* to chemotherapy and also kills these cells. Future work with this compound in animals will hopefully support these findings and lead to clinical trials and eventually help defeat recurrent ovarian cancer in humans.

This work was done in collaboration with Dr. Louis Ignarro of the University of California School of Medicine in Los Angeles who, along with two colleagues, won the 1998 Nobel Prize in Physiology or Medicine for their work in discovering the biological role of nitric oxide.

Minehart Leaves Heart Center Development

Jim Minehart has stepped down from his position as Senior Director of Development for the OSU Heart Center. Jim accepted a position as the Head of Fund Development for a newly created foundation, Willow Brook Christian Communities. Jim will be greatly missed by the faculty and staff of the Heart Center, his colleagues in Medical Center Development and Alumni Affairs, University Development, and the many donors with whom Jim has developed strong relationships.

Working closely with Jim has been the Associate Director of Development Stacey Myers. In addition to working on the Heart Center Campaign, Stacey has worked with Dr. William Abraham to develop the Cardiovascular Women's Health Program. We are fortunate to continue to benefit from her experience and expertise. For more information please contact Stacey Myers at (614) 247-7804.

College of Medicine Safety Page

The URL for the COM Intranet "Safety Page" has changed. You will need to re-establish bookmarks and shortcuts as follows: <http://www.medicine.osu.edu>, to Faculty and Staff, to Safety Resources, OR <http://www2.med.ohio-state.edu/safety/>. The safety page contains forms and information useful to labs in regards to training programs, safety requirements, resources, links, etc.

New Medical/Prescription Cards

The university's medical claims administrator, NGS American, will be **re-issuing medical/prescription drug cards** in February to all faculty and staff who are enrolled in a university-sponsored medical plan. The re-issued card will replace the current card and should be presented by members and/or covered family members when visiting the doctor or pharmacy.

The new card will list a preprinted, unique identifier comprised of letters and numbers that will replace the Social Security Number (SSN) that is currently printed on the existing cards. Removing the SSN from the card provides better protection against identity theft.

Managed Health Care Systems (MHCS) has made an effort to notify most medical and pharmacy providers of the new cards, but faculty and staff should still request their medical and pharmacy providers update their files with the new, unique identifier when presenting the new card to their doctor or pharmacist.

If you need to request additional or replacement medical/prescription cards, please contact NGS American at 1-866-442-8257 or <http://www.ngsameric.com>.

Medical Premium Holiday

The university will be offering a "premium holiday" during the month of March and suspending the medical plan deduction that automatically occurs each pay period for all OSU Faculty and Staff who are enrolled in a medical plan. This "premium holiday" is being offered

because a recent financial analysis of the medical plan projected that by the end of this year, our medical plan will most likely have a surplus of funds.

Faculty and staff who are eligible for the premium holiday include:

- Individuals enrolled in one of the university sponsored health plans, (*University Prime Care (UPC), Regional UPC, OSU Health Plan, Traditional Health Plan, Buckeye Health Plan*);
- Hold a Regular or Term appointment; and
- Are on active pay status the first day of the pay period in which the holiday will occur.

The medical plan premium holiday will be applied on the March 17, 2006 and March 31, 2006 paychecks for individuals paid bi-weekly and on the March 31, 2006 paycheck for individuals paid monthly. However, faculty and staff will still see a deduction during this time for all other benefits, including dental and vision.

Frequently Asked Questions regarding the premium holiday are located on the Office of Human Resources (OHR) website at: <http://hr.osu.edu/benefits/premiumholidayfaq.pdf> You can also contact the OHR Customer Service Center at service@hr.osu.edu, at (614) 292-1050, or 800-678-6010 if you have any additional questions.

Prescription Drug Plan Update

The Office of Human Resources (OHR) has updated several items on its website regarding the **2006 Prescription Drug Plan**. Some of the new materials included are: Frequently Asked Questions (FAQs), Maximizing Your Pharmacy Benefits Tips, Medications Requiring Prior Authorization, and OSU-Approved Prescription Drug Formulary information. These items can be found online at: <http://hr.osu.edu/benefits/healthprescription.htm>

Also, OHR has sent a special mailer to the home address of all faculty and staff members who are enrolled in a university sponsored medical plan to remind them of the 2006 Prescription Drug Plan changes. The mailers should be arriving in mailboxes by the end of next week.

If you have any questions or need additional information regarding changes to the Prescription Drug Plan, please contact the OHR Customer Service Center at: service@hr.osu.edu or (614) 292-1050.

Cardiac MRI and Cardiac CT CME Courses

Dr. Subha Raman and Dr. Orlando Simonetti will be offering CME accredited courses in Cardiac MRI (April 6 - 8) and Cardiac CT (April 9 - 10) at The Ross Heart Hospital. These courses can be taken together or separately. The programs include didactic lectures covering technology and clinical applications, as well as scanning demonstrations and hands-on sessions in image interpretation and analysis. Lecture sessions are open to OSU faculty and staff free of charge. Case review, image processing and scanning demonstrations require paid registration. More information is available at www.cardioimaging.osu.edu. Please notify Beth McCarthy (beth.mccarthy@osumc.edu) if you plan to attend any lectures.



March Programs and Events

March 3: Research in Progress; Xiaoping Liu, PhD; Cardiovascular Medicine.*

March 10: Research in Progress; Arun Tewari; Proteomics Core Facility.*

March 31: Research in Progress; Gunjan Agarwal, PhD; Internal Medicine and Biomedical Engineering.*

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



Recent Publications

Ahmad R, Clymer B, Deng Y, He G, Vikram D, Kuppusamy P, Zweier JL. Optimization of data acquisition for EPR imaging. *J Magn Reson* 2006. (EPub: PMID 16458030]

Angelos MG, Kutala VK, Torres CA, He G, Stoner JD, Mohammad M, Kuppusamy P. Hypoxic reperfusion of the ischemic heart and oxygen radical generation. *Am J Physiol Heart Circ Physiol* 2006;290(1):H341-347.

Anghelina M, Krishnan P, Moldovan L, Moldovan NI. Monocytes/Macrophages Cooperate with Progenitor Cells during Neovascularization and Tissue Repair: Conversion of Cell Columns into Fibrovascular Bundles. *Am J Pathol.* 2006 Feb;168(2):529-541.

Avner Friedman, Jianjun Tian, Giulia Fulci, E. Antonio Chiocca, and Jin Wang. "Glioma Virotherapy: Effects of Innate Immune Suppression and Increased Viral Replication Capacity." *Cancer Res* 2006; 66:(4) February 15, 2006

Babu GJ, Bhupathy P, Petrashevskaya NN, Wang H, Raman S, Wheeler D, Jagatheesan G, Wiczorek D, Schwartz A, Janssen PML, Ziolo MT, and Periasamy M. The Inhibitory effect of Sarcolipin on SR calcium transport is not mediated through PLB monomerization or PLB phosphorylation. *J Biochem.* 281:3972-3979, 2006.

Beharka AA, McCormack, FX, Denning G, Lees, J, Schlesinger LS. The interactions between pulmonary surfactant protein A (SP-A) and human macrophage activates a PI3 kinase/calcium signal transduction pathway in human macrophages. *J. Immunol.*, 175:2227-2236, 2005

Bratasz, A., Weir, N. M., Parinandi, N. L., Zweier, J. L., Sridhar, R., Ignarro, L. J., and Kuppusamy, P. Reversal to cisplatin sensitivity in recurrent human cancer cells by NCX-4016, a nitro derivative of aspirin, *Proc. Nat. Acad. Sci.* (2006).

Cooke, GE, Liu-Stratton, Y., Ferketich, AK, Moeschberger, ML, Frid, DJ, Magorien, RD, Bray, PF, Binkley, PF, Goldschmidt-Clermont, PJ. Effect of Platelet Antigen Polymorphism on Platelet Inhibition by Aspirin, Clopidogrel, or Their Combination. *J Amer Col Cardiol.* 2006; 47(3): 541-546.

Crowther JE and Schlesinger LS. Defining the phagocytic pathway for Surfactant Protein A in human macrophages: binding, clathrin-dependent Uptake, and trafficking through the endolysosomal pathway. *Am J Physiol.* 290:L334-L342, 2006.

G.Ilangovan, C.D. Venkatakrishnan, A. Bratasz, S. Osinbowale, A. J Cardounel, J. L Zweier, and P. Kuppusamy, Heat Shock-Induced Attenuation of Hydroxyl Radical Generation and

Mitochondrial Aconitase Activity in Cardiac H9c2 Cells, *Am. J. Physiol. Cell Phys.* 2006, Feb; 290(2) C313-24

Ilangovan G, Venkatakrishnan CD, Bratasz A, Osinbowale S, Cardounel AJ, Zweier JL, Kuppusamy P. Heat shock-induced attenuation of hydroxyl radical generation and mitochondrial aconitase activity in cardiac H9c2 cells. *Am J Physiol Cell Physiol* 2006;290(2):C313-324.

Kang PB, Azad AK, Torrelles JB, Kaufman TM, Beharka A, Tibesar E, Schlesinger LS. The human macrophage mannose receptor directs *Mycobacterium tuberculosis* lipoarabinomannan-mediated phagosome biogenesis. *J Exp. Med* 202:987-999, 2005.

Khan M, Shobha JC, Mohan IK, Naidu MU, Sundaram C, Singh S, Kuppusamy P, Kutala VK. Protective effect of Spirulina against doxorubicin-induced cardiotoxicity. *Phytother Res* 2005;19(12):1030-1037.

Khan M, Varadharaj S, Ganesan LP, Shobha JC, Naidu MU, Parinandi NL, Tridandapani S, Kutala VK, Kuppusamy P. C-phycoerythrin protects against ischemia-reperfusion injury of heart through involvement of p38 MAPK and ERK signaling. *Am J Physiol Heart Circ Physiol* 2006 (Epub, PMID: 16373583).

Khan M, Varadharaj S, Shobha JC, Naidu MU, Parinandi NL, Kutala VK, Kuppusamy P. C-phycoerythrin ameliorates doxorubicin-induced oxidative stress and apoptosis in adult rat cardiomyocytes. *J Cardiovasc Pharmacol* 2006;47(1):9-20.

Kutala VK, Khan M, Mandal R, Ganesan LP, Tridandapani S, Kalai T, Hideg K, Kuppusamy P. Attenuation of myocardial ischemia-reperfusion injury by trimetazidine derivatives functionalized with antioxidant properties. *J Pharmacol Exp Ther* 2006 (Epub. PMID: 16467453).

Li H, He G, Deng Y, Kuppusamy P, Zweier JL. In vivo proton electron double resonance imaging of the distribution and clearance of nitroxide radicals in mice. *Magn Reson Med* 2006. [Epub: PMID 16463344]

Matsumoto A, Matsumoto S, Sowers AL, Koscielniak JW, Trigg NJ, Kuppusamy P, Mitchell JB, Subramanian S, Krishna MC, Matsumoto K. Absolute oxygen tension (pO₂) in murine fatty and muscle tissue as determined by EPR. *Magn Reson Med* 2005;54(6):1530-1535.

McCarthy TR, Torrelles JB, MacFarlane A, Katawczik M, Kutzbach B, Clegg S, DesJardin LE, Goldberg JB, Schlesinger LS. *Mycobacterium tuberculosis* manB, a phosphomannomutase that increases phosphatidylinositol mannoside biosynthesis in *M. smegmatis* and mycobacterial association with Human Macrophages. *Mol. Micro.* 58:774-790, 2005.

O'Brien JM Jr, Phillips GS, Ali NA, Lucarelli M, Marsh CB, Lemeshow S. Body mass index is independently associated with hospital mortality in mechanically ventilated adults with acute lung injury. *Crit Care Med.* 2006 Jan 25 [Epub ahead of print].

Raman S, Kelley MA, Janssen PML. Effect of Muscle Dimensions on Trabecular Contractile Performance under Physiological Conditions. *Eur J Physiol.* 451:625-630, 2006.

Tritto I, Wang P, Kuppusamy P, Giraldez R, Zweier JL, Ambrosio G. The anti-anginal drug trimetazidine reduces neutrophil-mediated cardiac reperfusion injury. *J Cardiovasc Pharmacol* 2005;46(1):89-98.

Xu KY, Kuppusamy P. Dual effects of copper-zinc superoxide dismutase. *Biochem Biophys Res Commun* 2005;336(4):1190-1193.

New Awards

PI: Tom Clanton
Co-I: Valery Khramtsov
Title: Redox mechanisms of respiratory muscle stress adaptation
Sponsor: NHLBI, Award No. 2 R01 HL0053333
Amount: \$1,464,805
Start date: 2/1/06 End date: 1/31/10

PI: Andrea Doseff
Co-PI: James Dalton
Title: Molecular mechanisms of apoptosis in monocytes
Sponsor: NHLBI, Award No. 1 R01 HL075040
Amount: \$1,495,000
Start date: 2/9/06 End date: 1/31/11

PI: Lon Simonetti
Co-I: Subha Raman
Title: Cardiovascular MRI and CT application research
Sponsor: Siemens
Amount: \$197,420
Start date: 12/1/05 End date: 11/30/06

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

