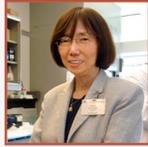




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MARKEY *quarterly*

SEASONAL NEWS FOR MARKEY CANCER CENTER FACULTY AND STAFF

MARKEY CLINICAL TRIALS: THERE'S AN APP FOR THAT

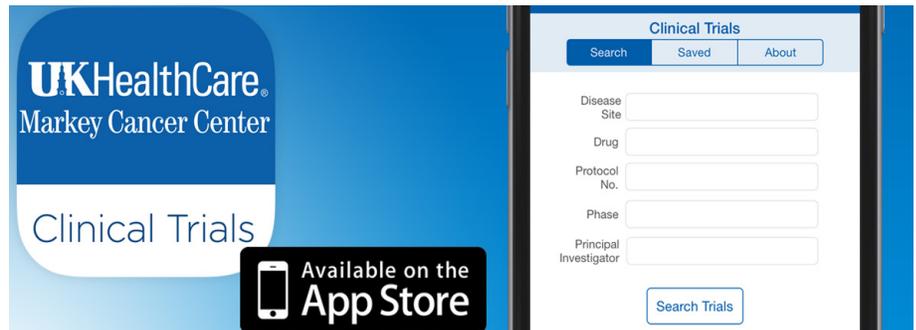
MARKEY LAUNCHES ITS FIRST IPHONE AND IPAD APP

New app, launched this month, allows iOS7 or greater users to search for clinical trials available at Markey.

The Cancer Research Informatics (CRI) Shared Resource Facility recently released the Markey Cancer Center Clinical Trials app, Markey's first iPhone and iPad app. The app was developed with the goal of assisting physicians in discussing treatment options with patients. Offering real-time clinical trial information direct from OnCore, Markey's trial management system, the app allows users to browse active clinical trials or search by criteria such as disease site, drug, phase and principal investigator. Trials can be e-mailed or saved for quick reference at a later time and information can be accessed about the clinical trials program. With this app, additional details about specific clinical trials are now just a few clicks away for physicians and patients.

The app requires iOS 7 or greater and can be downloaded on the Apple App Store by searching for 'Markey'. The CRI SRF is considering development for other platforms.

The CRI, one of five shared resource facilities at Markey, supports collaborative research among Markey members through the optimal application of informatics technologies and methods that maximize the accessibility and usability of data, information and knowledge. The primary goal of CRI is to provide comprehensive and centralized data acquisition and informatics support that is readily available to cancer center members.



The Markey Clinical Trials app can be downloaded on the App store.

MARKEY BY THE NUMBERS

Number of slides presented to MCC External Advisory Board.....243

Markey's current number of active cancer-related grants.....215

FROM THE DIRECTOR

B. MARK EVERS, MD, DIRECTOR, MARKEY CANCER CENTER



The end of the year is a natural time to reflect on the past and look forward to the future, and this year at Markey, that happened to coincide with a visit from our External Advisory Board (EAB) earlier this month. Our EAB serves an important purpose – their existence is mandated by our National Cancer Institute designation, and their purpose is to guide Markey toward becoming an even better NCI designated center in every way possible. The 15 members of the EAB are from across the country and hail from other NCI-designated facilities, where they do groundbreaking research, lead impressive research programs, and in some cases serve as the directors of those facilities. Over the past few years, these individuals have advised Markey leadership in areas where we can continue to improve, and in many ways, their visits provide us the perfect opportunity to look both backward at our successes and forward to our challenges at the same time.

Recommendations from a group of advisors like ours can cover everything from the layout of the materials we present to them to our strategic direction – to say it’s wide-ranging would be an understatement. But each year, their feedback helps ensure we become the best possible cancer center for our patients and stay true to our mission of serving Kentuckians in our state’s fight against cancer. This is especially true when it comes to some of the key characteristics of any cancer center, which will remain our guideposts as we think about Markey’s future.

- How closely is our research tied to the serious cancer disparities in both Kentucky and Appalachian Kentucky? How are we addressing those issues?
- Are we doing the best we can to move our research findings toward practical applications in treating cancer?
- And finally, are we effectively educating and engaging our community, patients, caregivers, and medical professionals of all kinds, and are we seeking out valuable collaborations to share what we know with other institutions around the country and the world?

If we focus on those three questions, we can expect to have a very productive year in 2015 and to significantly impact the lives of those individuals in our catchment population as well as those across the country.

Kentucky Receives \$7 Million for Collaboration to Reduce Burden of Lung Cancer

A \$7 million grant from the Bristol-Myers Squibb Foundation’s Bridging Cancer Care initiative is supporting Kentucky LEADS (Lung Cancer. Education. Awareness. Detection. Survivorship.) Collaborative, a project that will focus on reducing the burden of lung cancer in Kentucky. Lung cancer is the most common cancer worldwide and kills more Americans than breast, prostate and colon cancer combined. One in two patients diagnosed with lung cancer will die within a year. After five years, only 16 in 100 patients will be alive.

The Kentucky LEADS Collaborative, a first of its kind project between UK, the University of Louisville, and Lung Cancer Alliance, brings together an interdisciplinary team of community partners and lung cancer prevention and control experts to assess novel approaches for identifying lung cancer earlier to improve survival. The project will also develop and evaluate interventions to improve quality of life and survivorship for individuals with lung cancer and their caregivers.

UK’s Jamie Studts, PhD, director of the Kentucky LEADS Collaborative, will lead the second component of the project. This component will develop a lung cancer-specific survivorship program that promotes quality of life and well-being for individuals diagnosed with lung cancer, as well as their caregivers, throughout the continuum of the disease. This will include care that addresses a combination of acute and late or long-term effects of the illness and treatment. Studts and his team will also develop a training program for lung cancer navigators and mental health providers to sustainably administer the survivorship program to patients and caregivers statewide.

The third component of the project, led by UK’s Timothy Mullett, MD, and Jennifer Redmond Knight, DrPH, will promote evidence-based prevention and early detection of lung cancer. Lung cancer is often diagnosed too late to treat because symptoms tend to emerge only after the disease has spread. For this reason, increasing high-quality lung cancer screening is critical to reducing deaths from the disease.



**KENTUCKY
LEADS**
COLLABORATIVE

LUNG CANCER
EDUCATION • AWARENESS
DETECTION • SURVIVORSHIP

MEET A MARKEY MOVER

DARET ST. CLAIR, PHD

This quarter, Markey Quarterly introduces you to Daret St. Clair, PhD; Professor, Graduate Center for Toxicology (which will become the Department of Toxicology and Cancer Biology effective January 1, 2015); Co-leader, Redox Injury and Repair (RR) Program; and Associate Director for Basic Research at the Markey Cancer Center.



Good morning, Dr. St. Clair. You wear many hats here at Markey, what responsibilities in those roles do you most enjoy?

Being a professor is very gratifying. My whole career, I've enjoyed seeing how my students, the next generation of researchers, grow and succeed. As the co-leader for RR, I have the chance to focus the program's research in an area of great interest to me and to share that collective research with a larger audience. As the Associate Director for Basic Research, my role is to implement strategies to enhance basic science at Markey. We want to see Markey receive comprehensive designation from the NCI in our competing renewal. We must also move Markey into critical areas of research. We have unique strengths to nurture and promote, and we also have unique problems in the area that we serve. We cannot expect other cancer centers to take care of Eastern Kentucky. We will. That's our job.

How long have you been at Markey, and what brought you here?

I'm from Thailand, where I was a medical physicist. The University of Iowa had a unique program in Free Radical and Biology, where I earned my PhD. This is where I first studied

Redox Biology. My PhD advisor brought this area of research into cancer studies and I was one of his first students. I then studied at Harvard Medical School for my post-doc. My first faculty position was at the Bowman Gray School of Medicine of Wake Forest University.

I came to UK as an Assistant Professor in 1991, when the Graduate Center for Toxicology belonged to the Graduate School. When I decided to come to UK, the Graduate Center for Toxicology was small, and I felt it was a place where I could make an important contribution. The Graduate Center for Toxicology later moved to the College of Medicine and built closer ties to Markey. When Dr. Evers arrived with the goal of attaining NCI-designation, I was an established researcher in the area of redox biology with good funding and support. This allowed me to devote time in leadership roles.

I've been in this field since I was a graduate student. I enjoy working here because the philosophy is one of collaboration. UK has outstanding faculty in every corner. Markey works with colleges everywhere on campus. UK has a culture of very strong collaborations and this is what makes us succeed and makes this a fun place to work.

MOVER, continued

As the Associate Director for Basic Research, you oversee Markey pilot funds. How are these important to the research efforts at Markey?

Pilot funds offer seed money to help Markey scientists and clinicians conduct innovative studies that will help us address problems in our catchment area and build on basic science to enhance investigator opportunities with the goal of receiving funding support on a national or international level. These funds support the translation of basic discovery to prevention and treatment. Pilot funds may lead to the discovery of a marker that identifies drug targets or the use of a drug not usually associated with cancer that ultimately works with cancer. For example, a method of treating chemo brain began with basic science at Markey before it was brought into clinical trials. This type of progress is possible because seed money allows us to generate data that can then be used to apply for external competitive funds or jump-start clinical studies.

What advice would you give to researchers looking to make the most of pilot fund opportunities?

There are a significant amount of pilot funds for investigators at Markey: American Cancer Society Institutional Research Grant awards; the Buck Award; Cancer Center Support Grant Pilot awards; Kentucky Lung Cancer Research Program awards; and the Pulliam Pilot awards. These opportunities are available to start a new area of research or extend an area. There are a lot of opportunities for the number of researchers we have, and our success rate is four to five times better than national funding opportunities. With that in mind, I would advise investigators to plan ahead. Learn what is available and work toward that; do not wait until the deadline is near. And, once pilot funds are awarded, I would then advise investigators to do the best science they can with the money. Good science has to come first, funding will follow. Good science, good translational potential, good chance to receive competitive funding.

Have you noticed any trends in the direction of research over the past few years?

There is a national trend toward personalized medicine. Our job is to nurture good scientists. We must promote strong scientists at Markey and enhance areas unique to the mainstream of the national research agenda. We must carve out our area of innovative research with an understanding of the trends.

Now, for fun, what do you like to do in your spare time?

You think I have free time? I'm only kidding! I enjoy reading mysteries. And bird watching. I feed birds in every corner at my house, including cardinals and gold finches. I have four pet finches at home. They eat breakfast with me.

Learn more about MCC pilot funds

The following pilot funding opportunities are available through the Markey Cancer Center. The list below will be updated when specific due dates for each program become available. Calls for applications and letters of intent are sent through the Markey listserv two to three months before the application due date.

Contact Jennifer Rogers jen.rogers@uky.edu for more information.

- **American Cancer Society Institutional Research Grant awards**
Up to two rounds of funding per year; applications generally due in the spring (April/May/June) and/or fall (October/November).
- **Buck Award**
One round of funding per year, generally due in the fall (September).
- **Cancer Center Support Grant Pilot awards**
One round of funding per year, generally due in the fall (October/November). Applications are invited by Markey Research Program leaders.
- **Kentucky Lung Cancer Research Program awards**
One round of funding per year. Letters of intent are typically due in late July/early August. Full applications are invited from approved letters of intent and are typically due in October.
- **Pulliam Pilot awards**
One round of funding per year, generally due in July/August.

Clark Regional Medical Center Joins Forces with UK HealthCare to Provide Expanded Heart, Cancer Care

UK HealthCare announced that Clark Regional Medical Center (CRMC) in Winchester has entered into a formal collaboration with the UK Markey Cancer Center to develop its oncology service line and is now an affiliate Gill Heart Institute Affiliate Network. CRMC's new oncology program will be grounded in Markey's policies and standards.

TELL US ABOUT IT

Do you have an idea for the Markey Quarterly? Email Markey's Research Communications Office at mccrco@uky.edu with your story idea.

NOTEWORTHY

WELCOME

Ahmad Al-Attar, CESB
Michael Alstott, Free Radical Biology and Metabolism SRF
Roger Chui, KCR
Malgorzata Dobrowolska, CESB
Marcie Greer, Cancer Center Admin
Naser Jaferi, Visiting Scholar
Julie McAllister, Project Coordinator for BMSF grant
Susan Quick, Research Communications Office
Crystal Trimble, Markey Cancer Foundation
Amanda Wilburn, KCR
Hui Yu, CESB
Nathalya Zarth, Cancer Center Admin

PRESENTATIONS & PUBLICATIONS

Markey authors were responsible for 81 manuscripts and publications in journals from October through November 2014. Notable publications include the following.

Burikhanov R, Sviripa VM, Hebbar N, Zhang W, Layton WJ, Hamza A, Zhan CG, Watt DS, Liu C, Rangnekar VM. Arylquins target vimentin to trigger par-4 secretion for tumor cell apoptosis. *Nature Chemical Biology* 2014;10:924-926.

Darville A, Hahn EJ. Hardcore smokers: What do we know? *Addictive Behaviors* 2014;39:1706-1712.

Elder JW, Pavlik EJ, Long A, Miller RW, DeSimone CP, Hoff JT, Ueland WR, Kryscio RJ, van Nagell JR, Ueland FR. Serial ultrasonographic evaluation of ovarian abnormalities with a morphology index. *Gynecologic Oncology* 2014;135:8-12.

Fang HM, Zhang P, Huang LP, Zhao ZY, Pi FM, Montemagno C, Guo PX. Binomial distribution for quantification of protein subunits in biological nanoassemblies and functional nanomachines. *Nanomedicine-Nanotechnology Biology and Medicine* 2014;10:1433-1440.

Kyprianou N. The fringe benefits of cloning cancer. *Science Translational Medicine* 2014;6.

Son YO, Pratheeshkumar P, Roy RV, Hitron JA, Wang L, Zhang Z, Shi XL. Nrf2/p62 signaling in apoptosis resistance and its role in cadmium-induced carcinogenesis. *Journal of Biological Chemistry* 2014;289:28660-28675.

GRANTS

Rachel Miller, MD, was awarded Lexington Cancer Foundation Incorporated funding for “Neoadjuvant Chemotherapy in the Treatment of Advanced Stage Ovarian Cancer (2013 award)”.

Jianhang Jia, PhD, was awarded National Institute of General Medical Sciences funding for “The Regulation of Smoothed in Hedgehog Signaling”.

Robin Vanderpool, DrPH, was awarded National Center for Chronic Disease Prevention & Health funding for “Appalachian Center for Cancer Education, Screening, and Support (ACCESS)”.

AWARDS, RECOGNITIONS & SELECTIONS

Allan Butterfield, PhD, received the Society of Free Radical Biology and Medicine’s Mentoring Excellence Award at the society’s national conference in Seattle, Nov. 19-23. In his 39 years at UK, Dr. Butterfield has graduated more than 65 doctoral and master’s degree students and approximately 150 undergraduates. He has also trained about 20 postdoctoral scholars. Dr. Butterfield is the Alumni Association Endowed Professor of Biological Chemistry at UK and serves as director for both UK’s Center of Membrane Sciences and the UK Markey Cancer Center’s Free Radical Biology and Metabolism Shared Resource Facility. Additionally, he is a faculty associate for UK’s Spinal Cord and Brain Injury Research Center and is a faculty member of UK’s Sanders-Brown Center on Aging.

Teresa Fan, PhD, Professor of Toxicology, was featured in the National Institutes of Health (NIH) Common Fund Research Grantee Success Stories. The NIH Common Fund is a unique funding source inspired by a growing need to conduct biomedical research through innovative and collaborative methods. Dr. Fan was highlighted as a leader of the Resource Center for Stable Isotope-Resolved Metabolomics, one of six metabolomics resource centers established nationwide as part of the NIH Common Fund’s Metabolomics program. The Center provides training in sample preparation, experimental design, and data analysis. Dr. Fan uses metabolomics to study cell metabolism in lung cancer.



NOTEWORTHY, continued

Jonathan Feddock, MD,

Assistant Professor of Radiation Medicine, has been named the new national PI for the NCI Gynecologic Oncology Group Study 0238: Radiation Therapy With or Without Cisplatin in Treating Patients With Recurrent Endometrial Cancer. This randomized phase II trial evaluates radiation therapy and cisplatin to see how well they work compared with radiation therapy alone in treating patients with recurrent endometrial cancer. The trial has been open since 2008 at over 250 centers across the United States and approximately half of the projected 164 patients have been accrued. As PI, Dr. Feddock will work with leaders of the American Brachytherapy Society to increase interest and enrollment.



Patrick McGrath, MD, Professor, UK Department of Surgery and Ward O. Griffen Endowed Chair; Chief of General Surgery and Section Head of Surgical Oncology, has been named Medical Director of the UK Markey Comprehensive Breast Care Center.

Robin Vanderpool, DrPH,

Assistant Professor of Health Behavior, UK College of Public Health, has been named co-chair of the Cancer Prevention and Control Research Network (CPCRN) Steering Committee for the current five-year funding cycle (2014-2019). The CPCRN is a national network of public health, academic, and community partners who join together to work toward reducing the burden of cancer through the dissemination and implementation of evidence-based research and practice. The Network also strives to increase linkages between the community and clinicians, particularly in minority and medically underserved communities. The CPCRN is comprised of eight funded research institutions across the country where community-based cancer research is performed, and represents a collaboration of the cancer divisions of the Centers for Disease Control and the National Cancer Institute.



Free to Breathe

The fourth annual Free to Breathe fundraiser was Saturday, Nov 1. The inspirational event featured a 5k run/walk and a 1-mile walk for all fitness levels, with awards for top fundraisers and finishers. All proceeds from the event support Free to Breathe, a nonprofit lung cancer research and advocacy organization dedicated to ensuring surviving lung cancer is the expectation, not the exception. Free to Breathe aims to rally Kentuckians to create change and help defeat lung cancer. Supporters and participants create communities of hope by raising awareness of the disease and funds which can fuel advances in detection and treatment and ultimately save lives.



MARKEY DIFFERENCE MAKERS

Congratulations to the following Markey Difference Makers for the fourth quarter of 2014.

Farrah Cates	Toni Mucci
Mara Chambers	Michelle Peel
Richard Gibbs	Vivian St. John
Virginia Hodskins	Edna Ware
Jessie Menifee	Crystal Williams
Patrick McGrath	Zhou Zhang

Do you know a Markey Difference Maker?

The Markey Difference Maker award recognizes the above-and-beyond dedication and talent of those who go about the business of treating cancer patients, finding efficiencies in business procedures, improving working conditions, and, generally, making life easier for everyone associated with Markey: patients, caregivers, families, providers, administrators and staff. Nominations are now accepted online.