



IUSCC news

September 2016

News briefs



"State of the Cancer Center" address is Oct. 20

Patrick Loehrer, MD, director of the IU Simon Cancer Center, presents his annual "State of the Cancer Center" address as the Seminar Series on Thursday, Oct. 20. The address is 3 p.m. to 4 p.m. in Walther Hall, Room 203. All cancer center members are invited. A reception immediately follows.

Dr. Abonour, others start two-day Miles for Myeloma

Earlier this morning (Sept. 30), Rafat Abonour, MD, and more than 30 cyclists departed Columbus, Ohio, for the start of this year's Miles for Myeloma cycling event. They'll bike nearly 200 miles before wrapping up in Indy around 4:15 pm. Saturday, Oct. 1 with a finish-line celebration outside the Scottish Rite Cathedral. All are welcome. Dr. Abonour started the event to raise awareness and funds for multiple myeloma, an incurable blood cancer. Dr. Abonour and Miles for Myeloma have raised more than \$3 million for research at Indiana University.



Earlier in September, Big Ten cancer center directors and other consortium leaders from the Big Ten Cancer Research Consortium converged in Indianapolis for the first-ever summit among the institutions. In addition to the consortium members, the summit brought together biotech and pharmaceutical leaders to strengthen the academic and industry collaboration and explore opportunities for novel therapeutic advances in cancer research. The IU Simon Cancer Center hosted the summit.

Drs. Miller, Schneider receive Komen funding

Susan G. Komen recently announced that it has awarded \$700,000 to two IU Simon Cancer Center researchers, bringing Komen's total research investment in Indiana to \$10,553,541 since 1982.

The recipients are:

Komen Scholar **Kathy Miller**, MD, will receive \$400,000 to evaluate the safety and impact of an exercise therapy for breast cancer survivors called low-intensity, offloaded-compressive therapy or LOFT. The goal of LOFT is to improve muscle strength, reduce fatigue, and increase sleep quality in breast cancer survivors without excessive exertion or strain.

Komen Scholar **Bryan Schneider**, MD, will receive \$300,000 to continue his research to better understand why some patients suffer chemotherapy-related side effects, such as peripheral neuropathy and therapy-induced heart failure, while others do not. Dr. Schneider will review genetic information and lead a clinical trial to find the underlying cause of these toxicities and develop preventive therapies.

Indiana also has nine ongoing grants, awarded in previous years, including grants to Komen Scholars **Sunil Badve**, MD, and **Harikrishna Nakshatri**, PhD.

Komen Tissue Bank travels to Detroit; nearly 200 women donate



Nearly 200 women from the Detroit area selflessly donated a piece of themselves on Sept. 24 when the [Susan G. Komen Tissue Bank at the IU Simon Cancer Center](#) held a breast tissue collection at the Barbara Ann Karmanos Cancer

Institute. Detroit's diverse population led the Komen Tissue Bank, the only normal breast tissue bio-repository of its kind in the world, to the Motor City. By using samples from women without breast cancer, researchers will be able to determine the differences between healthy and cancerous tissues, which will lead to a better understanding of the disease. Prior to Detroit, other collections have been held in Chicago; Louisville, Ky.; Orange County, Calif.; and Houston in addition to those in Indianapolis. In 2017, the tissue bank will travel to New York City for a collection. **Anna Maria Storniolo**, MD, is the executive director of the tissue bank.

Join IUSCC team to support Light the Night Walk

The IU Simon Cancer Center is forming a team to raise money to support the Leukemia & Lymphoma Society's Light the Night Walk on Saturday, Oct. 8 at Victory Field.

Here are some ways that you can support Light the Night and make an impact:

- Join the IU Simon Cancer Center team and walk with us Saturday, Oct. 8. It is easy to join by clicking <http://pages.lighththenight.org/in/Indianap16/IUSimonCancerCenter>.
- Donate directly to the IUSCC team or one of the team members already registered. Please click on the link above and select either "Donate to Our Team" or "Donate to a Team Member."

Light the Night Walk is an annual evening walk that raises funds for LLS's mission: To cure leukemia, lymphoma, Hodgkin's disease and myeloma, and improve the quality of life of patients and their families.

If you're interested in serving as co-captain, please contact Kathleen Pelletier, the society's Indiana Chapter campaign director, at Kathleen.Pelletier@lls.org. For more, visit www.LLS.org.

Cancer Moonshot announces 10 scientific approaches

The Blue Ribbon Panel presented its report to the National Cancer Advisory Board on Sept. 7. The report describes [10 transformative research recommendations](#) for achieving the Cancer Moonshot's ambitious goal of making a decade's worth of progress in cancer prevention, diagnosis, and treatment in just five years.

American Association for Cancer Research releases 2016 Cancer Progress Report

Federally funded research continues to spur progress against cancer; however, accelerating the pace of progress will require robust, sustained, and predictable annual funding increases for the National Institutes of Health, the National Cancer Institute, and the Food and Drug Administration. Additionally, strong financial support for the National Cancer Moonshot Initiative is required, according to the sixth annual American Association for Cancer Research. [Read the report.](#)

IU Simon Cancer Center PowerPoint template available

Are you about to put together a PowerPoint presentation in which you'll be representing the IU Simon Cancer Center? If so, we invite you to please use the newest cancer center template: http://cancer.iu.edu/documents/IUSCC_PowerPoint_Template_2015.pptx.

You'll find a title page and two options for subsequent pages: One page with the IU Simon Cancer Center signature (logo), and a page without the signature. This gives you the option of either using the signature on every page or using it more sparingly, either throughout the presentation, or perhaps only for the final slide.

The new template adds consistency to the IU Simon Cancer Center's overall look. The template's design takes elements from the Website (www.cancer.iu.edu), the monthly e-letter, and internal announcements.

Cancer center members in the news

- **Jianjun Zhang**, MD, PhD, has been awarded an R21 grant, totaling \$375,187, by the NCI. The primary objective of the project is to identify insulin resistance biomarkers and metabolomics signatures that are predictive of malignant intraductal papillary mucinous neoplasm (IPMN) of the pancreas (a type of pancreatic cysts). The expected results could inform physicians to make evidence-based clinical IPMN management and open new avenues for preventing this precursor lesion and ensuing pancreatic cancer. Dr. Zhang will conduct this project in collaboration with **Max Schmidt**, MD, PhD, MBA (Co-PI) and other investigators at the IU Fairbanks School of Public Health, IU School of Medicine, and Massachusetts General Hospital.



Zellars

- **Richard Zellars**, MD, has been selected to this year's Real Men Wear Pink, an American Cancer Society campaign. Real Men Wear Pink is designed to raise awareness and funds for this year's Making Strides Against Breast Cancer event, which is Oct. 22. Each day throughout October, Dr. Zellars and the others will sport a pink item. [Visit Dr. Zellars' Real Men Wear Pink page.](#)

- **Rafat Abonour**, MD, has been named a torch bearer in the Indiana Bicentennial Torch Relay. Dr. Abonour will carry the torch in his home county – Boone County – around 1:30 p.m. Thursday, Oct. 13. The relay began on Sept. 9 in Corydon, the state's first capital. It ends at the Statehouse on Oct. 15.

- **Thomas Imperiale**, MD, has been named the inaugural Lawrence Lumeng Professor in Gastroenterology and Hepatology at IU School of Medicine. Dr. Imperiale is an internationally respected health services researcher and a clinical gastroenterologist. Dr. Imperiale's research,

which has been funded by the National Cancer Institute, the National Institute of Diabetes and Digestive and Kidney Diseases, the Department of Veterans Affairs and other organizations, focuses on developing and testing screening strategies for colorectal cancer based on risk factors. His findings have been published in highly regarded journals, including the New England Journal of Medicine, Journal of the American Medical Association, Annals of Internal Medicine and Gastroenterology. In addition to the IU School of Medicine and the IU Simon Cancer Center, Dr. Imperiale holds appointments with the Regenstrief Institute's William M. Tierney Center for Health Services Research, the IU Center for Health Services and Outcomes Research, and the VA Center for Health Information.

- A number of cancer center members have been issued domestic or global patents. Overall, the IU

Research and Technology Corp. was issued a record 53 patents in fiscal year 2015-16 by the U.S. Patent and Trademark Office. [Read the news release.](#)

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Tumors' alternative energy source could become a new target for anti-melanoma therapy

Sept. 28, 2016

INDIANAPOLIS – Melanoma tumors switch to an alternative energy system when they develop resistance to chemotherapy, making that alternative system an attractive target for new treatments, according to researchers at Indiana University School of Medicine.

Malignant melanoma is one of the most lethal forms of cancer, responsible for 95 percent of skin cancer-related deaths. When the cancer has not spread, surgery is an effective treatment option. If it has spread, drugs that block the activity of the mutated gene successfully shrink the tumors, but the tumors eventually develop resistance to the drugs, leaving physicians without effective treatment options.

The research, recently published in the [Journal of Biological Chemistry](#), focused on the subtype of malignant melanoma that contains a particular genetic mutation found in nearly 50 percent of such tumors.

Like most cells in the body, cancer cells process glucose to provide the energy needed for cellular activities and proliferation. However, previous

research with PET scans has shown that glucose levels drop significantly in melanoma tumor cells as they develop resistance to drugs.

In the new study, researchers led by Samisubbu R. Naidu, PhD, research assistant professor of microbiology and immunology, determined that more than half of malignant melanomas, those carrying the mutant gene, shifted from using glucose to acetate as a main source of energy. The researchers also identified the enzyme responsible for conversion of acetate into energy.

These findings highlight the potential of this enzyme as a novel target for a new anti-melanoma therapy, Dr. Naidu said.

"If we can develop a drug that can effectively inhibit this enzyme, we could extend the life of melanoma patients from months to years," he said.

The study focused on melanoma cells containing a mutant BRAF protein, which directs the cells to proliferate and survive in nutrient-limited environments.

In a series of experiments, the researchers grew melanoma cells in various combinations of nutritional media and found that supplementing the media with acetate enabled the cells to survive and proliferate in the absence of glucose.

Subsequently, it was found that in the absence of glucose, mitochondria, the cellular organelles commonly known as the "powerhouse of the cell," were increasingly active in the energy production, using acetate as a fuel. One particular enzyme enabled the use of this alternative source of energy. Importantly, by deleting this gene in melanoma cells, the authors showed that melanoma tumor growth in mice was blunted.

Dr. Naidu noted that mutations in the BRAF gene are found in many other types of cancer. Therefore, he said, "The benefits of this discovery may well go beyond melanoma."

Financial support for this research was provided in part by the Indiana Clinical and Translational Sciences Institute Independent Scientist Award,

Indiana CTSI Core awards, the Ralph W. and Grace M. Showalter Research Trust as well as funds from Hal E. Broxmeyer, PhD, Distinguished Professor and professor of microbiology and immunology.

In addition to Dr. Naidu and Dr. Broxmeyer, investigators contributing to the work were Alexander J. Lakhter, James Hamilton, Raymond L Konger and Nickolay Brustovetsky, all of IU School of Medicine.

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