



Dear Colleague,

Welcome to the Summer 2012 issue of the *Nutrition Frontiers*, a quarterly newsletter from the Nutritional Science Research Group (NSRG), Division of Cancer Prevention, NCI. In this issue, you will learn about the jamun berry, how women, not men, who consume fish oil may be protected from colorectal cancer, and much more.

#### RESEARCH UPDATE: ON THE CLINICAL FRONT

##### Indian Blackberries ('Jamun') Contain Antioxidant, Antiproliferative and Chemopreventive Compounds



Berries provide varying amounts of polyphenols, including anthocyanins, proanthocyanidins, ellagitannins, flavonols, and phenolic acids. The Indian blackberry, "jamun", is found in India and in parts of

America, Asia and East Africa. The berries are eaten as fruits and have been used for medicinal purposes. Until recently, the chemical properties and chemopreventive potential of jamun were largely unknown. According to recent findings from [Aqil and colleagues](#), jamun is a source of glucosides of 5 anthocyanidins - delphinidin, cyanidin, petunidin, peonidin, and malvidin - and appreciable amounts of ellagic acid/ellagitannins. Jamun was found to have high antioxidant potential. Further, when analyzed with human lung cancer cells, jamun had antiproliferative activity. The jamun berry may be a worthwhile choice for future research as a chemopreventive agent for lung cancer, and [breast cancer](#).

#### RESEARCH UPDATE: WHAT'S NEW IN BASIC SCIENCE

##### Increased Dietary Intake of PUFAs Associated with Lower Colorectal Polyp Risk in Women

In animals, n-3 PUFAs reduce colorectal neoplasms and inhibit cancer. Human studies from [Murff and colleagues](#) found that fish oil decreased the risk of adenomatous polyps in women. Eating 3 servings of fish per week in women was associated with lower production of urinary prostaglandin E2, a metabolite



#### On a Personal Note

Congratulations to **John Milner, PhD**, as he moves



along to his new position as Director of the

the

Beltsville

Human Nutrition Research Center at the USDA. John served as Chief of the NSRG for the past 12 years. Under his direction, John championed the area of nutrigenomics, including the concept of nutritional modulation of genetic pathways for cancer prevention - work that may further the understanding of the variability in response to food components observed in clinical studies. We thank John for his dedication to the NCI and wish him well at USDA.

#### Upcoming Events

September 19, 2012

[Tea and Human Health](#)

Washington, DC

October 06-09, 2012

[Food & Nutrition Conference & Expo](#)

Philadelphia, PA

October 16-19, 2012

[Eleventh Annual International Conference on Frontiers in](#)

that has a positive correlation for tumor formation. On the contrary, fish oil intake in men was not preventative and intake of n-3 PUFA  $\alpha$ -linolenic acid was associated with hyperplastic polyp risk. Future studies may focus on determining if the effects of n-3 PUFAs intake is gender specific in reducing colorectal cancer and the role that eicosanoid production may play in chemoprevention.

#### SPOTLIGHT: LAURA ROZEK



Laura Rozek, PhD, is an Assistant Professor of Public Health (Environmental Health Sciences) and Medicine (Otolaryngology) at the University of Michigan. She received a MS in Epidemiology from the University of Washington and a MA in Statistics and a PhD in Epidemiologic Sciences from the University of Michigan. Her laboratory uses molecular epidemiologic methodology to understand the contribution of environmental toxicants and diet to the development of cancer, with the goal of defining novel biomarkers for cancer prevention. She was recently awarded a R03, [\*Transcriptomic Effects of Curcumin and Piperine in Breast Stem Cells\*](#).

[Read more »](#)

#### SPOTLIGHT: JOHN SUNWOO

John B. Sunwoo, MD received his BS from Brown University and his MD from Washington University in St. Louis. After a NIH research fellowship and clinical training in Otolaryngology - Head and Neck Surgery at Washington University, he completed a postdoctoral fellowship in the laboratory of Wayne Yokoyama, a pioneer in natural killer (NK) cell biology. He is currently an Assistant Professor at Stanford University.



The focus of his laboratory is the study of NK cell responses to cancer development and how this response can be modulated through various extrinsic factors, including components found in the diet. He was recently awarded an R01 for his project entitled, [\*Enhancement of Natural Killer Cell Effector Functions\*](#).

[Read more »](#)

#### DID YOU KNOW?

##### All Varieties and Forms of Corn Provide Antioxidant Benefits



For centuries, many North American cultures have used the entire corn plant for medicinal purposes, from inflammation to nosebleeds. Corn is not only a good source of fiber, but also provides ample chewing satisfaction due to its high ratio of insoluble-to-soluble fiber. Different varieties of corn have unique combinations of anthocyanins, beta-carotene, lutein and zeaxanthin. Corn's antioxidants capacity is not significantly lowered when dried into kernels confirming the wisdom of many North American and Mesoamerican cultures, which relied on

[Cancer Prevention Research, American Association for Cancer Research](#)

Anaheim, CA

November 01-02, 2012

[2012 AICR Annual Research Conference on Food, Nutrition, Physical Activity and Cancer](#)

Washington, DC

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naturally-dried corn.

This summer enjoy the optimal sweetness of fresh corn. Eat it the day of purchase or store corn with husk to protect its flavor in an air-tight container in the refrigerator. Fresh corn also freezes well if placed in heavy-duty freezer bags.

*References:*

Adom KK, Liu RH. J Agric Food Chem 2002;50:6182-7.

Li J, Walker CE, Faubion JM. J Sci Food Agric 2011 Jan 15;91(1):38-43. 2011.

Jonnalagadda SS, Harnack Liu LH, et al. J Nutr 2011;141:1011S-1022S.

<http://www.whfoods.com/genpage.php?tname=foodspice&dbid=90>

Sincerely,

*Your friends at the Nutritional Science Research Group*

Division of Cancer Prevention  
National Cancer Institute  
National Institutes of Health  
U.S. Department of Health & Human Services

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