



*"The best prevention,
is Early Detection"*

EDRN Today

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CANCER BIOMARKERS RESEARCH GROUP

IN THIS ISSUE

Early Detection Research Network (EDRN)

by Felicia Evans Long, MBA

EDRN, Year Wrap-up!

As the year concludes, we want to say thank you for all your hard work within the EDRN.

From the 33rd EDRN Steering Committee Meeting in Boston, NCI IMAT PI Meeting, Translational Liver Cancer (TLC) Consortium to the collaborative Group meetings and many others, it has been a productive year. Including the launch of this new *EDRN Today* eNewsletter.

The EDRN Meeting in September marked the half waypoint for this cycle of the EDRN. The presentations made during the meeting will help NCI to evaluate the network, plan for its future and address questions and concerns moving forward in the New Year.

We're preparing and looking forward to our annual EDRN Steering Committee Meeting slated for March 18-20, 2019 in Nashville, Tennessee.

Looking ahead and hoping for another year of accomplishments in Cancer Prevention and Early Detection.

Program Director of the Month



Dr. Matthew Young is a Program Director for gastrointestinal cancer with CBRG, Division of Cancer Prevention, NCI. Dr. Young is well recognized for his earlier studies in the Laboratory of Cancer Prevention where his research was focused on gene regulation of tumor promotion, mouse models for cancer prevention and dietary intervention to prevent colon cancer.

Dr. Young also participates in the management and oversight of the Pancreatic Cancer Detection Consortium (PCDC) and oversees the Alliance of Pancreatic Cancer Consortia for Biomarkers for Early Detection.

Dr. Young is the lead Program Officer for the Program to Assess the Rigor and Reproducibility of Exosome-Derived Analytes for Cancer Detection and provides programmatic leadership for developing standards for liquid biopsy. Dr. Young manages an Interagency Agreement with the National Institute of Standards and Technology (NIST) which is focused on developing reference material for liquid biopsy assays.



RESEARCH SPOTLIGHT

Paul Lampe, Ph.D.



In the United States, only ~60% of screening-eligible adults receive a FDA-approved test, e.g. fecal occult blood test (FOBT) or colonoscopy, for colorectal cancer (CRC). A blood-based assay for early detection of CRC would be relatively non-invasive, easily accessible, and inexpensive, making it an ideal candidate to improve screening compliance. A high-density antibody

microarray was created to detect differences in protein levels in plasma collected up to 3 years prior to diagnosis (i.e., prediagnostic) of CRC compared to cancer-free, matched controls, identifying 78 markers significantly elevated in CRC. 32 of these were validated in plasma samples from people newly diagnosed with adenoma or cancer, compared to controls. A panel of five of these (BAG4, EGFR, CD44, IL6ST, and vWF) best discriminated case from control. This discrimination was further improved by adding data from assays for sialyl lewis (SLe) A and X modifications on CD44 and EGFR. Immunohistochemical staining of both adenoma and cancer tissues showed elevated levels of BAG4, IL6ST, and CD44.

Based on these confirmations, the panel was screened in a larger sample set using a novel high-throughput Luminex assay. A total of 841 samples (168 subjects with no evidence of colon

cancer, 159 subjects with early, low-risk adenomas, and 514 positive for CRC) from the Ogaki Municipal Hospital collected prior to diagnostic colonoscopy were analyzed. The panel had a sensitivity of 73% at 90% specificity, comparing favorably to sensitivities for current fecal tests (ranging from 23-82%). When the CRC positive samples were stratified by stage, panel performance increased with stage, indicating this panel may track with disease progression. Further assay development is underway to evaluate this panel of markers in ~4,700 samples from a screening cohort. These results were recently published in *Gut* (2018; 67: 473-484).

Investigator Spotlight

William Grady, Ph.D.



Dr. Grady is a molecular biologist and board-certified gastroenterologist. He is an independent NIH funded PI with >20 years of experience in translational research related to gastrointestinal cancer. He is a Co-Head of the GI Cancer Program of the Fred Hutchinson Cancer Research Center/University of Washington Comprehensive Cancer Center and the Director of Translational Research for the Gastroenterology Division at the University of Washington. Furthermore, Dr. Grady, in his role of a practicing gastroenterologist, manages patients with a variety of gastrointestinal diseases including Barretts esophagus, colon polyps and cancer. He is the Medical Director of the GI Cancer Prevention Program Clinic at the Seattle Cancer Care Alliance, which specializes in the care of individuals

who have cancer family syndromes, including Lynch syndrome and polyposis syndromes. He is one of the PIs in the Barretts Esophagus Translational Research Network (BETRNet). He is also the PI of a multi-PI Early Detection Research Network (NCI) Biomarker Discovery Lab (co-PI S. Markowitz). His NCI funded projects assess the role of epigenetic alterations as risk markers and biomarkers for esophageal and colon cancer, respectively. He is conducting studies that: 1) determine the role of the genetic and epigenetic alterations in the initiation and progression of colorectal and esophageal cancer; 2) determine novel treatment approaches to colorectal cancer, and 3) identify molecular factors that influence the risk for colorectal cancer.

Retirement



Barry Kramer, MD, MPH

After 38 years of distinguished government service, Dr. Barry Kramer, Director of the Division of Cancer Prevention (DCP), will retire in early January. His departure caps a truly impressive career and will be a profound loss to the Institute.

Dr. Kramer has played many critical roles over the course of his career. Prior to his 7-year tenure as DCP director, Barry served as the Division's Deputy Director, Associate Director for Disease Prevention at NIH, and Director of the Office of Medical Applications of Research, home of the NIH Consensus Development Program. He has been central to many of NCI's most important cancer screening trials, including but not limited to the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial, and the National Lung Screening Trial.

Dr. Kramer was a driving force in the development and evolution of NCI's Physician Data Query (PDQ); he has served as Editor-in-Chief of PDQ's Screening and Prevention Editorial Board since its inception in 1991 and has served as a member of the PDQ Adult Treatment Editorial Board since 1988. He has also served as an NIH liaison to the U.S. Preventive Services Task Force. For many years, in addition to his full-time NIH and NCI responsibilities, he was Editor-in-Chief of the *Journal of the National Cancer Institute*. In each of these roles he stood firm as a tireless champion and advocate for the rigorous evaluation of medical evidence, careful to avoid unquestioned assessments and intuitively appealing answers. This interest and commitment also led him to pioneer development of a multi-day course to arm health journalists to accurately cover medical research, "Medicine in the Media," which trained some of the leading journalists covering cancer science.

While we will miss him, I know you will join me in thanking Dr. Kramer for his service and congratulating him on his retirement.

*Norman E. Sharpless, M.D. NCI Director - November 2nd eNewsletter:
Announcing the retirement of Dr. Barry Kramer*

HAPPY
HOLIDAYS