Dear Colleagues,

With Thanksgiving still in recent memory, I am reminded of all that I am appreciative of here at the Center, thanks to the excellent work you all do every day. Thank you for continuing to make ours one of the best research centers of its kind, anywhere.

We’ve had another very exciting year of groundbreaking research in our labs, as well as growth, change, and expanded outreach in 2012. Nearly two years since the implementation of our strategic plan, we are on target in addressing our strategic priorities and meeting our goals.

At the November 9th Research Cluster retreat, we heard continued enthusiasm from cluster leaders and investigators for the new model, with most reporting increased opportunities for collaboration within the Center as a result of creating the Clusters. Exciting reports on first year activities showed that research Clusters are addressing their respective areas of research with enthusiasm and innovative research models. As clusters prepare their year two proposals, I am excited to report that we have again secured a panel of outside reviewers to conduct research cluster proposal reviews. Last year the outside reviewers were a critical part of the process. I look forward to reading the proposals and recommendations from the reviewers.

We have a new HNRCA publication, our 2012 Annual Report, which is now available online and in print (limited print quantities). This year’s Annual Report features research from several investigators and we look forward to highlighting more labs in future editions.

We have had several important guests and events at the HNRCA this fall. Articles in this issue of the newsletter detail keynote speeches from Congressman McGovern (D-MA) and NIA Director Richard Hodes, plus a training conference for young physicians and trainees, and a new community outreach effort, “Talk and Taste.” Again, each of these efforts have helped us meet our strategic priorities and I hope you will agree they represent excellent ways to share our knowledge here at the Center with the larger community and benefit from close interaction with national thought leaders.

You can also read an interview with Dr. Joel Mason, who was recently named one of
the best Gastroenterologists in Boston by Boston magazine. Congratulations Joel on this well-deserved accolade.

Finally, please mark your calendars for our upcoming holiday party on December 19th from 3:00 – 6:00pm at Fajitas & ’Ritas, located at 25 West Street. I look forward to seeing you there!

Sincerely,

Simin Nikbin Meydani, D.V.M., Ph.D.

Congressman James McGovern Speaks to HNRCA, Calls for White House Summit on Food and Nutrition

Speaking before a packed auditorium on October 24th, Massachusetts Congressman James McGovern (D-MA) applauded the HNRCA’s work. Dr. David Harris, Provost, introduced the Congressman and Mayor Joe Petty of Worcester also joined for the event.

McGovern, who chairs the House Hunger Caucus and sits on the House Agriculture Committee in Congress, said he relies heavily on the research that comes out of Tufts to educate fellow policymakers about eliminating hunger in the United States.

While speaking at the HNRCA, McGovern renewed his call for the White House to convene a conference on food and nutrition, at which, he insisted, “this institution would play a major role.”

McGovern said the first such White House conference was held during the Nixon administration, and Jean Mayer, for which the HNRCA is named, was chair of that conference, which had significant impact on U.S. nutrition policy.

McGovern’s talk was titled, “Food is Medicine: The importance of lifelong nutrition.” Drawing a direct link between improving nutrition and public healthcare, McGovern said good nutrition is “the way you keep people well, the way you keep people out of hospitals and the way you control healthcare costs.”

Partnership with Somerville COA Draws Seniors to Physical Activity and Nutrition Guidance

In October 2012, the Nutrition, Exercise Physiology and Sarcopenia Laboratory implemented The Fit-4-Life Program at the Holland Street Senior Center in Somerville. The program, consisting of a structured physical activity and nutrition counseling intervention, is a collaboration between the HNRCA, Tisch College, and the Somerville Council on Aging, and has already enrolled over 25 enthusiastic seniors. Based on the initial award winning success of the program within the Dorchester community, the overarching goal of The Fit-4-Life Program in Somerville is to manage and reduce the prevalent burden of age-related
chronic disease and provide concrete support for healthier aging among Somerville seniors.

Another aspect of the Somerville COA partnership is sharing our nutrition guidance for seniors. The HNRCA has created a new placemat featuring the MyPlate for Older Adults. Many Councils on Aging, including the Somerville COA, serve daily meals to seniors in a dining hall or cafeteria setting. The placemats will allow seniors to take in nutritional guidance as close to the source as possible – at the meal table. The placemat is based on the work of Dr. Alice Lichtenstein and Helen Rasmussen.

HNRCA Community Outreach Seminars Feature Nutrition and Cooking

On November 3rd the HNRCA hosted “Cooking with Pumpkins,” the first event in an exciting new series that highlights the health benefits of different seasonal vegetables.

Dr. Elizabeth Johnson from the HNRCA spoke on the health benefits of carotenoids and Toby Hewitt, Executive Sous Chef at Tufts, prepared delicious pumpkin bisque.

Audience members were able to taste the bisque after the cooking demonstration and enter to win a box of fresh vegetables by filling out a short questionnaire on nutrition.

The upcoming winter event in the “Talk and Tasting” series is expected to take place at the HNRCA on a Saturday, January 26. “Cooking with Kale” will feature a lecture, cooking demonstration, free tasting, and chance to win a prize. All events in the series are open to the public and free of charge.

The series was initiated as part of a leadership project by Gordon Institute student Michelle Blankenship under the leadership of Dr. Jimmy Crott, Scientist II, Nutrition and Carcinogenesis Laboratory.

NIA Director Hodes Addresses HNRCA

On October 5th the HNRCA received a visit from Dr. Richard Hodes, Director of the National Institute on Aging in Washington, DC. Dr. Hodes met with laboratory directors and also gave a keynote address to staff, scientists and students in the HNRCA auditorium.

Dr. Hodes spoke about the areas of interest for research at the NIA, with particular focus on nutrition and health, and reminded the audience of the need for continued research as the global population ages at record rates.

New HNRCA Supplement to AJCN Published

The November 2012 issue of the American Journal of Clinical Nutrition has published a supplement resulting from the proceedings of the New Developments in Carotenoids Research Conference, which the HNRCA held in March 2011.

Drs. Simin Meydani and Robert Russell are guest editors of the supplement, and Drs.
Xiang-Dong Wang, Guangwen Tang, and Elizabeth Johnson from the HNRCA all have papers published in the supplement.

Welcome New HNRCA Hires

Neal Blustein  Staff Assistant, Office of Senior Administration
Director

Jodi Ann Bonfiglio  Research Assistant, Nutritional Immunology lab.

Paloma Garcia  Sr. Research Technician, Vitamins & Carcinogenesis Lab

Jillian Greaves  Research Coordinator, Calcium and Bone Lab

Yi-Ling Huang  Postdoctoral Associate, Nutrition and Vision Lab

Daniel Polasky  Sr. Research Technician, Antioxidant Lab

Naoko Shimada-Minematsu  Postdoctoral Scholar, Nutrition and Vision Lab

Mariko Tani  Postdoctoral Associate, Lipid Lab

Lili Yee  Budget Fiscal Officer

Scientist Spotlight:

Dr. Joel Mason
Director, Vitamins and Carcinogenesis Lab

Q: Along with Dr. Ed Saltzman, you recently hosted Nutrition and Exercise in the Management of Outpatients: Important Advances You Need to Know. How did it go?

We were very pleased with the way the training conference worked out. The concept for the training arose from my own perspectives on what we should be doing with this new knowledge we are generating at the HNRCA. I feel very strongly that we need to communicate the practical and applied aspects of this research to the healthcare professionals who provide care in the community, and I particularly want to reach young physicians so that they develop a sense of how important nutrition and exercise science is in the practice of medicine. We wanted to provide the most recent knowledge base on how a physician can incorporate nutrition and exercise-based science into the practice of medicine. There is a lot of benefit to be gained by both the system and by patients, and there is a lot of money to be saved. It’s preventive care.
We attracted medical students from all over New England, and I would like to do this again and on a larger scale. Hopefully some of the young physicians we reached will think about nutrition training programs in the future, where they can become specialists in human nutrition.

**Q: Who provided content at the training conference?**

About 60% of our content came from Tufts faculty. We also had some great outside speakers, including some former HNRCA trainees, which was exciting. The content will live on through the Abbott Foundation [via their educational website], which is terrific.

**Q: What are you and others working on in your lab?**

Traditionally my research for over 20 years has looked at the role of one-carbon nutrients in the prevention of cancer, specifically folate, B2, B6, and B12. We continue to do a fair bit of work in that. We are one of the leading labs in the world in regard to dissecting out the underlying cellular mechanisms by which these nutrients modulate cancer risk. We’ve also been instrumental in doing the seminal human studies. We’ve proven that inadequate amounts of folate lead to an increased risk of certain common cancers such as colorectal cancer. Some of our more recent explorations have involved looking at whether this same effect may exist in a transgenerational context. For instance, does a pregnant mother’s intake affect cancer risk in the next generation? Dr. Jimmy Crott’s work demonstrates that there is a transgenerational effect.

Dr. Choi continues to explore all sorts of novel epigenetic phenomena that might be responsible for explaining how these nutrients modify cancer risk, such as aberrations in normal patterns of DNA methylation, as well as histone acetylation and methylation. Over the past 18 months we’ve entered begun to examine the intersection between obesity and cancer research. I’ve been very interested in how obesity increases the risk of certain cancers. With the obesity pandemic, this has wide public health ramifications. Dr. Liu is an Adjunct Scientist now that he has taken a full-time faculty position elsewhere, and is setting up his own lab at UMass Amherst where we will continue to collaborate in this topic. It’s actually fun to take what we learn in animals and apply these principles to humans to see if they are applicable.

We have an HNRCA pilot grant in the colonoscopy suite at the Medical center to look at the changes in colon of obese people. We are asking if they have changes in their colon on a molecular level that are different from lean people, because we know that an obese person has 1.5 – 2 times the risk of developing colon cancer as a lean person. This work has also enabled me to establish new lines of communications with Dr. Andy Greenberg’s lab. It’s been very helpful to have him one floor below. We’ve recently published a paper together.

**Q: How have you been working with the Cancer Research Cluster?**

The cluster has added a very interesting array of new opportunities for us. As a group we decided the initial theme would be the microbiome in cancer. The NIH has chosen this as an important area for scientists to explore. Our expertise in the past hasn’t included examining the microbiome, but it makes sense because colon cancer is the primary cancer of interest in my lab. Since the majority of the human microbiome exists within the human intestinal tract, it plays an important role in terms of diet and nutrition, and introduces new opportunities to explore nutrients and colorectal cancer risk. As the cancer cluster
acquires an ability to use the microbiome as a study tool, it’s enabling us to incorporate considerations of the microbiome into the work that we do.

**Q: And what about your free time?**

I have two daughters; the older just graduated from college and is interested in becoming a field biologist, working at New England Aquarium at the Marine Animal Rescue Facility in Quincy. My younger daughter is sophomore in high school and is into soccer and track. I like cooking and gardening, and my kids and I have a never-ending pursuit for finding the perfect salsa recipe.

**Recent Publications from HNRCA Scientists**

The recent publications listed below reflect submissions to the Director’s office through November, 2012. We will continue to collect new publications from all labs and include them in future newsletters. Thank you!

Jean-Marc Zingg et al. (including HNRCA Scientist Mohsen Meydani). Molecular mechanisms of hypolipidemic effects of curcumin, 2012, Biofactors, in press.


Wang J et al. including HNRCA Scientists Munkyong Pae, Smin Meydani and Dayong Wu. Green tea epigallocatechin-3-gallate modulates differentiation of naïve CD4+ T cells into specific lineage effector cells, Journal of Molecular Medicine, 2012, in press.


Ren Z et al. including HNRCA Scientists Donald Smith, Smin N. Meydani and Dayong Wu. Dietary supplementation with white button mushrooms on host resistance to influenza infection and immune function in mice. Br J Nutr, 2012, in press.


Ordovás, JM, et. al. (including HNRCA Scientist Mohsen Meydani) Curcumin-supplemented diets increase superoxide dismutase activity and mean lifespan in Drosophila. Age (Dordr). 2012 Jun 1. [Epub ahead of print]


Ordovás, JM, et. al. Plasma HDL cholesterol and risk of myocardial infarction: a mendelian


Schaefer, EJ, et. al. (including HNRCA Scientists Margaret Diffenderfer, Bela Asztalos, Gregory G. Dolnikowski, and Stefania Lamon-Fava). Linkage between C-reactive protein and triglyceride-rich lipoprotein metabolism. *Metabolism.* 2012 Sep 24. doi:pii: S0026-0495(12)00312-5. 10.1016/j.metabol.2012.08.008. [Epub ahead of print]


