

# NUTRI NEWS

## The Department of Nutrition

October 2023

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### DR MIGUEL A MARTINEZ-GONZALEZ IS SPEAKER AT THIS YEAR'S 18<sup>TH</sup> ANNUAL STARE-HEGSTED LECTURE!

The Department of Nutrition held its 18<sup>th</sup> Annual Stare-Hegsted Lecture on October 2<sup>nd</sup> this year. Although this year's event was a hybrid one, it was very well attended! This annual Lecture is meant to honor Drs Fredrick Stare and Mark Hegsted, who were the founders of our Department of Nutrition in 1942, when it became the first department of nutrition in any medical center or school of public health in the U.S. **Dr Miguel A Martinez-Gonzalez**, was this year's distinguished speaker. Professor Martinez-Gonzalez is a member of CIBER-OBN and founder of the "Seguimiento Universidad de Navarra" (SUN) Mediterranean cohort. He also coordinates the PREDIMED Research Network and is PI of PREDIMED-Plus, a large multi-center primary prevention trial using an energy-reduced-Mediterranean diet, physical activity, and weight loss. He recently received the National Gregorio Maranon Award for Medical Research, awarded by the Ministry of Science and Innovation, Spain's most important recognition of someone in the field of scientific research.

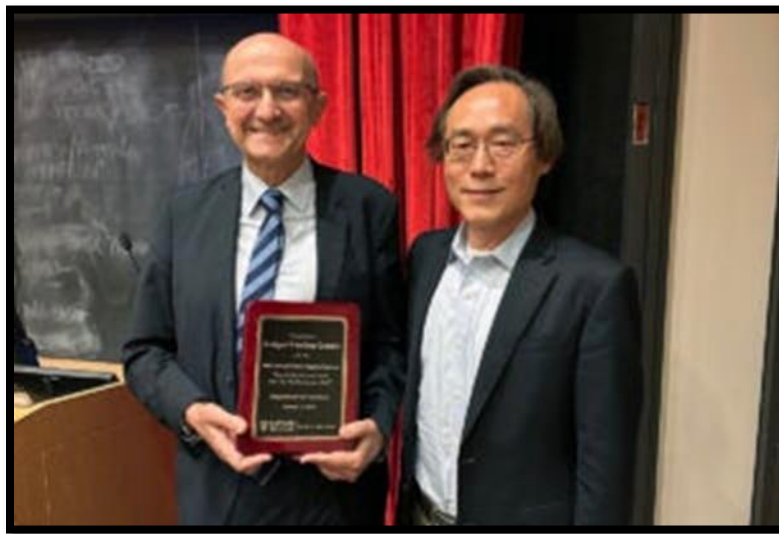
**Dr Frank Hu**, Fredrick J. Stare Professor of Nutrition and Epidemiology and Chair, Department of Nutrition, kicked off the event with a warm welcome to the audience and brief description of the lives of **Drs Fredrick Stare** and **Mark Hegsted** and why this event honors them every year. He then introduced Dr Martinez-Gonzalez.

As a bit of background, **Dr Fredrick Stare** became the first Chair of Nutrition in 1942 and held this post until he retired at the then mandatory age of 65 in 1975. Immediately after World War II, Dr Stare recognized that coronary heart disease was emerging as a major epidemic in the U.S. and focused the Department on understanding and preventing this disease. He established the Irish Brothers Study, which was one of the earliest studies of diet and physical activity. Even after stepping down as Chair, Dr Stare remained active and strongly supportive of the Department of Nutrition until his death in 2002.

**Dr Mark Hegsted** focused his efforts on understanding the effects of diet on lipid metabolism, and published a famous equation predicting serum cholesterol, summarizing many dozens of controlled feeding studies. He was later appointed Director of Human Nutrition at the U.S. Department of Agriculture and developed Dietary Goals for United States, the precursor to the Dietary Guidelines for Americans. Dr Hegsted continued to write, publish, and attend national meetings and this Lecture until his death in 2009 at age 95.

The title of Dr Martínez-González' lecture was "Should We Remove Wine from the Mediterranean Diet?". Research conducted by him and colleagues has found that a Mediterranean diet including alcohol reduced risk of cardiovascular disease by 30% compared to a low-fat diet which did not specifically include alcohol.

The researchers found in another study that people who followed what they defined as a moderate Mediterranean drinking plan—choosing red wine, drinking with meals, and spreading consumption over the course of the week—had a lower risk of mortality than people who abstained from alcohol. Martínez-González noted that additional recent studies have found that light to moderate alcohol consumption lowered the relative risks for premature mortality, and mortality from CVD and cancer.



Miguel Martínez-González with Nutrition Department Chair Frank Hu

On the other hand, consuming alcohol contained potential risks for young people, since one out of every four deaths of Americans ages 20 to 34 can be attributed to alcohol. Besides increasing the risk of accidental deaths, alcohol may also increase the risk of breast cancer. It is also more broadly toxic to the body if consumed in large amounts.

In conclusion Martínez-González stated that we should definitely remove wine from the Mediterranean diet for those under 35 years. However, for older adults, the picture becomes more complicated. Current findings indicate that the Mediterranean diet loses up to 23.5% of its protective effect if wine is removed. More randomized controlled diets are needed to adequately assess the potential benefits or harms from alcohol consumption.

**Photo:** webphotographer, Brett Otis

**Adapted from:** <https://www.hsph.harvard.edu/news/features/red-wine-mediterranean-diet/>

## NEW FACES IN THE DEPARTMENT OF NUTRITION

The following people have recently joined the Department. Be sure to say hello to them and introduce yourselves to them when you see them in the hallway!



**Li-Wei Wu**  
**Visiting Scientist**

My name is **Li-Wei Wu**. I will be a visiting scientist in the Department of Nutrition from 2023-2024. I obtained my M.D. from the National Defense Medical Center (NDMC), Taipei, Taiwan and a Ph.D. in Medical Sciences from the Graduate Institute of Medical Sciences at NDMC. I'm an attending physician and geriatrician in the Department of Family and Community Medicine at Tri-Service General Hospital in Taipei, Taiwan. My research centers on preventive medicine and geriatric medicine for healthy aging. My recent published works focus on body composition and clinical predictors for early detection of sarcopenia, frailty, cancer, and chronic diseases in the elderly using cohort data.

It is my great honor to have this opportunity to work with and learn from **Professor Edward Giovannucci** during this one-year research visit. Professor Giovannucci's research on diet and nutritional factors in cancer research not only promotes nutritional awareness in cancer prevention but also presents strong scientific rationales for developing preventive strategies to treat elderly cancer patients in my clinical practice. I hope to apply such understanding of the role of dietary patterns and nutritional factors in various malignancies to geriatric health care. During my year in the Nutrition Department at HSPH, I hope to further explore the potential role of cardiometabolic and nutritional determinants of sarcopenia, frailty and geriatric diseases for healthy aging.



**Qiang Liu**  
**Visiting Student**

Born and raised in China, I am a registered doctor and surgeon coming from Beijing, China, currently working at the National Cancer Center, as well as the Cancer Hospital affiliated with the Chinese Academy of Medical Sciences & Peking Union Medical College. I am excited to join the Department of Nutrition at Harvard T.H. Chan School of Public Health as a visiting scholar, under the guidance of **Dr Edward Giovannucci**.

My journey in the medical field began in 2014 when I started as a medical student. I had the privilege of participating in specialized training programs for residents and surgeons at Beijing Hospital, which is affiliated with Peking University, as well as the National Cancer Center, Cancer Hospital affiliated with the Chinese Academy of Medical Sciences & Peking Union Medical College, during the period from 2019 to 2022. In the past four years, I have been working in first-line surgical clinical practice, mainly for cancer patients. This experience has been invaluable in shaping my career and reinforcing my commitment to healthcare.

With the goal of becoming a physician-scientist, I am currently pursuing a Ph.D. in Oncology at the Chinese Academy of Medical Sciences and Peking Union Medical College. My research interests primarily focus on the clinical and translational epidemiology of cancer. My previous work has concentrated on identifying risk factors and pathways, exploring the causes and consequences, studying cancer prognosis, and investigating the survivorship of cancer patients by integrating large-scale observational studies and electronic health records.

I am eager to contribute to the Department of Nutrition and collaborate with all of you. Thank you for welcoming me into the department, and I am excited to work with each of you in pursuit of our shared goals. Also, I would be very happy to mingle with each of you and do something together for fun during my free time!



***Xilin Shen, B.E.***

***Visiting MD student - Zhejiang University, P.R. China***

Xilin is an M.D. candidate in Zhejiang University, China, and currently a visiting student in the Nutrition Department under the guidance of **Prof. Jorge E. Chavarro** and **Prof. Lidia Minguéz-Alarcon**. Xilin's interest is in reproductive health and assisted reproduction technology. She received her Bachelor's degree in Computer Science and Engineering at Zhejiang University. She has research experience in data analysis and modeling with multi-omics data. Now she is studying the effects of chemical exposure on reproductive health and infertility treatment outcomes.

In her leisure time, she enjoys traveling, watching musicals and Japanese animations. She is also learning tennis.



***Zhiyuan Wu***

***Postdoctoral Research Fellow***

Hello, everyone. My name is Zhiyuan Wu, and I am from China. I obtained a Bachelor of Medicine Degree from Capital Medical University (China) in 2018. Also, I received my PhD degree in Epidemiology both from Edith Cowan University (Australia) and Capital Medical University (China) in 2023. Currently as a postdoc in Harvard's Nutrition Department, I will mainly focus on the inter-relationships between dietary patterns, food biomarkers, the gut microbiome, and cardiometabolic conditions in cohort studies under the support of my mentor **Dr. Qi Sun**. Outside of research, I like

to experience diverse cultures via travelling, and spend time on outdoor activities, such as running, swimming, and hiking.

## NEWS IN THE DEPARTMENT

### HONORS & AWARDS

Doctoral student **Sarthak Agarwal** was named an Emerging Scholar at the Thirteenth International Conference on Food Studies at the University of Guadalajara in Mexico in October 2023. This award recognizes excellent scholarship and the promise of significant future achievement.

### GRANTS

**Abrania Marrero**, Postdoctoral Research Fellow; and Professional Fellow, Abigail Adams Institute, and her mentor **Josiemer Mattei**, Donald and Sue Pritzker Associate Professor of Nutrition; and Director,

Nutrition Research, Culture, and Equity (NURTURE) Program, have received continued funding for *La Cajita Mutua*, a public health program that aims to bolster social connectedness and close gaps in local, nutritious, and sustainably-grown food access to improve food security and cardiometabolic health in Puerto Rico. They thank Danone Institute North America and their Sustainable Food Systems Initiative.

**Dr Miguel A Martinez-Gonzalez** and colleagues were awarded a new ERC Advanced Research Grant to conduct the largest trial ever on alcohol's effects. This grant (UNATI, University of Navarra Alumni Trialist Initiative) will begin on December 1st in Spain. Currently, 450 medical doctors have been enrolled as trialists and the goal is to randomize 10,000 drinkers to either promote abstinence or moderate drinking of red wine with meals. The trial will be on-going until 2028.

## PUBLICATIONS

**Dr Frank Hu** published a comprehensive review paper entitled "Dietary Strategies for Promoting Healthy Aging and Longevity" in the *Journal of Internal Medicine*. This paper is based on an invited talk that he delivered at the 18th Key Symposium: *Longevity and Healthy Ageing: What can we learn from Blue Zones?* The symposium was held in Okinawa, Japan, in May 2023.

<https://onlinelibrary.wiley.com/doi/10.1111/joim.13728>

**Daniel (Dong) Wang, MD, ScD**, Assistant Professor; and Associate Member  
Broad Institute of MIT and Harvard, and colleagues have published the following papers:

Ma C, Li Y, Mei Z, Yuan C, Kang JH, Grodstein F, Ascherio A, Willett WC, Chan AT, Huttenhower C, Stampfer MJ, Wang D. Association Between Bowel-Movement Pattern and Cognitive Function: Prospective Cohort Study and a Metagenomic Analysis of the Gut Microbiome. *Neurology*. 2023 Sep. Epub ahead of print.

In three cohort studies (Nurses' Health Study, Nurses' Health Study II, and Health Professionals Follow-Up Study) involving 112,753 men and women, the authors found that individuals with constipation (bowel movements every 3+ days) had significantly poorer objective cognitive function compared to those with daily bowel movements. Additionally, bowel movement frequencies of 3+ days and  $\geq$ twice/day were both linked to a higher risk of subjective cognitive decline. Furthermore, in a subset of participants, they found significant associations of bowel movement frequency and cognitive decline with the gut microbiome. Specifically, Wang et al. identified a depletion of beneficial species, such as butyrate producers, and an enrichment of pro-inflammatory bacterial species in participants with less frequent bowel movements and worse cognitive function.

Dennis KK, Wang F, Li Y, Manson JE, Rimm EB, Hu FB, Willett WC, Stampfer MJ, Wang DD. Associations of dietary sugar types with coronary heart disease risk: a prospective cohort study. *Am J Clin Nutr*. 2023 Sep 1. Epub ahead of print.

In the Nurse's Health Study and the Health Professionals Follow-up Study, the authors examined the relationship between different dietary sugar types and the risk of coronary heart disease among 76,815 participants. Their analysis revealed that a higher intake of total fructose equivalents was associated with an increased risk of coronary heart disease. Notably, the food sources of total fructose equivalents make a difference. That is, intake of total fructose equivalents from fruits and vegetables was not associated with coronary heart disease risk, while a higher intake of total fructose equivalents from added sugar and juice was associated with an increased risk of coronary heart disease.



**Abrania Marrero**, Postdoctoral Research Fellow, published the following papers:

Marrero, A., Haneuse, S., Golden, C.D., Rodríguez-Orengo, J.F., Tucker, K.L. and Mattei, J., 2023. Neo-Traditional and Industrialized Dietary Patterns Coexist and Are Differentially Associated with Cardiometabolic Health among Adults in Puerto Rico. *The Journal of Nutrition*.

Marrero, A., Nicoson, C. and Mattei, J., 2023. Food laborers as stewards of island biocultural diversity: Reclaiming local knowledge, food sovereignty, and decolonization. *Frontiers in Sustainable Food Systems*, 7, p.1093341.

**Dr Miguel A Martinez-Gonzalez** and colleagues have published the following paper:

Konieczna J, Ruiz-Canela M, Galmes-Panades AM, Abete I, Babio N, Fiol M, Martín-Sánchez V, Estruch R, Vidal J, Buil-Cosiales P, García-Gavilán JF, Moñino M, Marcos-Delgado A, Casas R, Olbeyra R, Fitó M, Hu FB, Martínez-Gonzalez MÁ, Martínez JA, Romaguera D, Salas-Salvadó J. An Energy-Reduced Mediterranean Diet, Physical Activity, and Body Composition: An Interim Subgroup Analysis of the PREDIMED-Plus Randomized Clinical Trial. *JAMA Netw Open*. 2023 Oct 2;6(10):e2337994.

The paper reports the results of the PREDIMED-Plus, the largest randomized trial of nutrition currently ongoing in Europe. Martinez-Gonzalez is the Principal Investigator, thanks to an European Research Council (ERC) Advanced Research Grant. In this subset of participants, using an objective assessment of body composition (DXA), the researchers found that an energy-reduced Mediterranean diet together with physical activity was better than a non-energy reduced Mediterranean diet in changing body fat stores. Their intervention significantly reduced total and visceral fat and attenuated age-related losses of lean mass in older adults with overweight or obesity and metabolic syndrome.

## PRESENTATIONS

Doctoral student **Sarthak Agarwal** presented a poster in October 2023 on the bidirectional relationship between household food insecurity and parent's mental health at the Food & Nutrition Conference & Expo in Denver hosted by the Academy of Nutrition and Dietetics.

## Micronutrient Forum 6th Global Conference

Department Associate **Dr Sabri Bromage** (ScD, 2018) attended the Micronutrient Forum 6th Global Conference in The Hague, Netherlands, from October 16-20 to give two presentations about an ongoing three-year Rockefeller-funded project led by Mahidol University in collaboration with Harvard University, Intake Center for Dietary Assessment, and international partners. The work was presented on behalf of the project team which includes Harvard investigators **Drs Walter Willett, Wafaie Fawzi, Christopher Golden, Sheila Isanaka, Nazia Binte Ali, Yanping Li**, and former director of the Harvard Chan Nutritional Biomarker Lab **Dr Jeremy Furtado**. The aim of this project is to strengthen the capacity for population surveillance of diet quality and key nutritional biomarkers in low- and middle-income countries.



Presentation on "Establishing a Regional Resource Laboratory in Thailand for Population Nutrition Surveillance"

The first presentation described the team's progress on convening a series of consultations with international experts on recommended nutrient biomarkers, assay methods and instrumentation, and best practices in laboratory infrastructure and management in limited-resource settings to help inform design and decision-making of nutrition resource labs in the Global South, to which **Drs Hannia Campos, Rain Yamamoto** (ScD, 2016), **Anne CC Lee** (Harvard Medical School and Brigham and Women's Hospital), **Gary Bradwin** (Boston Children's Hospital), and numerous other scientists have contributed expertise. The presentation also described how the team is translating knowledge generated from these consultations and a recent stakeholder workshop, hosted by Mahidol University and attended by representatives from 8 Southeast Asian countries, toward the development of a regional nutrient biomarker resource lab and regional biomarker surveillance network.



Panel discussion on "Increasing the Availability of Reliable Information on Biomarkers of Micronutrient Status: Essential Information for Program Planning and Evaluation"

The second presentation described the team's work on validating a novel software tool for standardized collection of data on the Global Diet Quality Score (GDQS) in Thailand, peer-reviewed results of which were accepted for publication in October and are now in press (**Bromage S, Pongcharoen T, et al, "Performance of the Global Diet Quality Score (GDQS) app in predicting nutrient adequacy and metabolic risk factors among Thai adults", Journal of Nutrition**). The GDQS metric was previously developed and validated for use in adults by an international team led by investigators from the Department of Nutrition, INSP Mexico, and Intake Center for Dietary Assessment from 2018 to 2021 with funding from the Bill &

Melinda Gates Foundation, and the GDQS is currently being applied in numerous surveys globally. In October, Intake Center for Dietary Assessment also published a platform for visualizing GDQS data in different world regions: <https://www.intake.org/visualizations>.

As part of the ongoing Rockefeller-funded project, the team is also conducting secondary analysis of data from nine countries to develop GDQS metrics for children and adolescents 2-5, 6-9, and 10-14 years of age. Results of this analysis will be submitted for peer-review early next year.

## MORE RESEARCH NEWS

### Better sustainability for coral reef fisheries

According to a new study led by **Jessica Zamborain-Mason**, a research associate in the Department of Nutrition, more than half of the world's coral reef fisheries do not meet one of two key sustainability benchmarks.

Because globally, there is little research on or monitoring of coral reef fisheries, thus making it difficult to assess their stocks of fish and their overall sustainability, the researchers used fish biomass data and catch estimates from more than 2,000 coral reefs to determine site-specific benchmarks of sustainability and assess the status of global coral reef fish stocks.

Zamborain-Mason states that "While assessing fish abundances in a particular location is straightforward, assessing sustainability requires knowing how much fish that location could support if we were not fishing, and also how productive those fish assemblages are—how fast they can replenish their stocks after depletion by fishing. To get a handle on these numbers, we asked how fish communities recover when they are in no-take areas and how many fish there are in remote locations far from direct human impacts."

Their findings indicate that over 50% of reef fisheries did not meet at least one of the sustainability benchmarks: (1) Their fish stocks are dangerously low, and/or (2) levels of fishing outmatch fish stocks' capacity to recover.

However, the authors wrote that the study also offers "a promising means" for analyzing, understanding, enhancing, and protecting sustainability going forward.

Zamborain-Mason J, Cinner JE, MacNeil MA, et al. Sustainable reference points for multispecies coral reef fisheries. *Nat Commun* 2023; **14**(1): 5368.

**Adapted from:** <https://www.hsph.harvard.edu/news/hsph-in-the-news/a-path-to-sustainability-for-coral-reef-fisheries/>

**Also read:** <https://www.smithsonianmag.com/blogs/smithsonian-tropical-research-institute/2023/09/26/first-global-assessment-of-the-sustainability-of-coral-reef-fisheries/>



## Increased type 2 diabetes risk associated with red meat consumption



According to a new study led by first author **Xiao Gu**, postdoctoral research fellow in the Department of Nutrition, people who eat just two servings of red meat per week may have an increased risk of developing type 2 diabetes compared to people who eat fewer servings, and the risk increases with greater consumption. The researchers also found that replacing red meat with healthy plant-based protein sources, such as nuts and legumes, or modest amounts of dairy foods, was associated with reduced risk of type 2 diabetes.

Gu states that "Our findings strongly support dietary guidelines that recommend limiting the consumption of red meat, and this applies to both processed and unprocessed red meat". This study, which analyzed a large number of type 2 diabetes cases among participants being followed for an extended period of years, adds a greater level of certainty about the association between red meat consumption and type 2 diabetes.

Gu and colleagues analyzed health data from 216,695 participants from the Nurses' Health Study (NHS), NHS II, and Health Professionals Follow-up Study (HPFS). Diet was assessed with food frequency questionnaires every two to four years, for up to 36 years. During this time, more than 22,000 participants developed type 2 diabetes.

The researchers also estimated the potential effects of substituting one daily serving of red meat for another protein source. They found that substituting a serving of nuts and legumes was associated with a 30% lower risk of type 2 diabetes, and substituting a serving of dairy products was associated with a 22% lower risk.

According to senior author **Walter Willett**, professor of epidemiology and nutrition, "Given our findings and previous work by others, a limit of about one serving per week of red meat would be reasonable for people wishing to optimize their health and wellbeing."

"Red meat intake and risk of type 2 diabetes in a prospective cohort study of US females and males," Xiao Gu, Jean-Philippe Drouin-Chartier, Frank M. Sacks, Frank B. Hu, Bernard Rosner, Walter C. Willett, The American Journal of Clinical Nutrition, October 19, 2023, doi: 10.1016/j.ajcnut.2023.08.021

**From:** <https://www.google.com/search?client=firefox-b-1-e&q=Red+meat+consumption+associated+with+increased+type+2+diabetes+risk>

**Image:** iStock/Lisovskaya

## Slower biological aging linked with Mediterranean diet high in polyphenols

According to a new clinical trial performed in Israel and co-authored by researchers at Harvard T.H. Chan School of Public Health, eating a Mediterranean or Green Mediterranean diet rich in polyphenols (micronutrients found in plant-based foods and beverages such as green tea and Mankai) is associated with slower biological aging.

Recent research has pointed to the specific health benefits of polyphenols. However, no studies so far have been conducted on their effects on biological aging (the aging of the body's cells and tissues), apart from chronological aging. For this reason, researchers in Israel conducted an 18-month randomized controlled trial in which 294 adults with abdominal obesity adhered to one of three dietary interventions: healthy dietary guidelines; a Mediterranean diet; and a Green Mediterranean diet with low consumption of meat and daily consumption of polyphenol-rich green tea and Mankai. They assessed biological aging by examining DNA methylation (known as methylation age (mAge)—chemical changes to DNA that indicate aging in cells and tissues).

Findings from the study indicate that adherence to the polyphenol-rich Green Mediterranean diet was associated with an 18-month reduction in mAge, which was driven mostly by the participants' higher intake of polyphenols. The findings also indicate the effectiveness of both Mediterranean diets in which nine months of aging were "saved" among those groups.

**Dr. Iris Shai**, the PI of the study, is currently on sabbatical at the Dept. of Nutrition. HSPH collaborators on this study include **Dr. Frank Hu**, Professor of Nutrition and Epidemiology, **Dr. Meir Stampfer**, Research Professor, and **Dr. Liming Liang**, Professor of Statistical Genetics.

Yaskolka Meir A, Keller M, Hoffmann A, et al. The effect of polyphenols on DNA methylation-assessed biological age attenuation: the DIRECT PLUS randomized controlled trial. *BMC Med* 2023; **21**(1): 364.

**From:** <https://www.hsph.harvard.edu/news/hsph-in-the-news/mediterranean-diet-high-in-polyphenols-linked-with-slower-biological-aging/>

## The Portfolio Diet may lower risk for heart disease and stroke



Photo: Shubi Husain

New research shows that a lesser-known dietary pattern, called the portfolio diet, may lower the risk for heart disease and stroke because it is designed to lower "bad" LDL cholesterol, a leading risk factor for cardiovascular disease. This diet is so-named because it includes a select "portfolio" of plant-based proteins such as soy and other legumes; foods with viscous fiber such as oats, barley, berries, apples and citrus fruit; nuts and seeds; phytosterols that reduce cholesterol absorption through fortified foods or supplements; and avocado and healthy plant-based oils high in monounsaturated fat.

According to the study's lead author, **Dr. Andrea Glenn**, a registered dietitian and postdoctoral research fellow in the Department of Nutrition, under the mentorship of **Dr. Frank Hu**, "Through this research, we found that the portfolio diet score was consistently associated with a lower risk of both heart disease and stroke, highlighting an opportunity for people to lower their heart disease risk through consuming more of these foods recommended in the diet," the study's lead author.

Although previous research has shown the portfolio diet can lower LDL cholesterol as much as an early-generation statin, little was known about how following the diet over a prolonged period of time might affect cardiovascular disease risk.

To investigate this, researchers looked at the diet data of 166,270 women and 43,970 men enrolled in long-term health studies who did not have cardiovascular disease when they enrolled in the mid-1980s and early 1990s. Participants answered food questionnaires every four years. The researchers then used the portfolio diet score to rank the participants' consumption of plant proteins, nuts and seeds, viscous fiber, phytosterols and plant sources of monounsaturated fatty acids. They found that after up to 30 years of follow-up, those with the highest portfolio diet score had a 14% lower risk of coronary heart disease and stroke compared to those with the lowest score. The study was published in *Circulation* online on October 25, 2023 (<https://www.ahajournals.org/doi/10.1161/CIRCULATIONAHA.123.065551>)

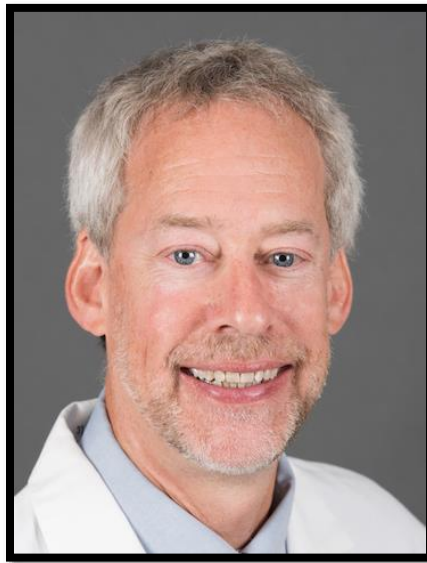
Glenn added that the portfolio diet may not be as well-known as the DASH and Mediterranean diets, but there are significant overlaps. For example, they all emphasize eating whole grains, fruits, vegetables, plant protein, nuts and plant oils. But the portfolio diet, she said, is more "plant forward" and discourages animal proteins more than other dietary patterns.

Glenn further states that "It's not an all-or-nothing approach. You can take your own diet and make a few small changes and see cardiovascular benefits". "You also do not have to follow it as a strict vegan or vegetarian diet to see benefits, but the more of the foods (from the portfolio diet) that you eat, the greater your heart disease risk protection, as we saw in the current study. We need to get the word out."

**From:** American Heart Association News

<https://www.heart.org/en/news/2023/10/25/ever-heard-of-the-portfolio-diet-it-may-lower-risk-for-heart-disease-and-stroke>

## Dr Christopher Duggan Elected to Project Bread's Board



Project Bread, a statewide anti-hunger organization, has elected **Christopher Duggan, M.D., M.P.H.**, a pediatric gastroenterologist and nutrition physician at Boston Children's Hospital, to the nonprofit's Board of Directors.

"Project Bread's pursuit of bold, systemic solutions to the problem of hunger will benefit greatly from Dr. Duggan's medical and personal perspective especially as we look to expand our impact, reaching patients through our partnerships with and referrals from community health centers," says Erin McAleer, Project Bread CEO. "I believe he will be a strong advocate and a great partner in our work to end hunger statewide."

Project Bread's Health Care Partnerships Program works with clinicians in community health centers statewide to provide support to patients with critical health issues exacerbated by food insecurity. This innovative program addresses hunger as a social determinant of health, providing patients with individualized comprehensive case management to increase their access to healthy food resources and nutrition education. Since its launch in 2020, the Health Care Partnerships team has served more than 9,500 clients referred by health centers.

Since 2021, Dr. Duggan has served on Project Bread's Advisory Council, separate from the nonprofit's Board of Directors, leveraging his personal and professional networks to increase the organization's impact and reach. During this time, the Newton resident joined the organization's Health Care Partnerships Board subcommittee and participated in the nonprofit's annual Walk for Hunger.

According to Duggan, "Project Bread is a forward-thinking advocacy organization that has transformed the way we think about food security and health in Massachusetts. Their recent success in establishing school meals as a permanent component of K-12 education in the state, as well as their leadership in the burgeoning Food is Medicine movement, are wholly aligned with my professional role as an educator and health care provider at Boston Children's Hospital. My experiences in the US and overseas in many settings have proven to me how critical food and water security is in preventing disease and optimizing growth in children. I am excited to join Project Bread's Board of Directors to contribute my perspectives."

Project Bread also recently lauded **Eric Rimm**, Professor in the Department of Epidemiology; and Director, PhD Program in Population Health Sciences, for his more than 20 years' service to the Board. Rimm later wrote to the Project Bread staff: "...Working with Project Bread for the last 21 years has been truly one of the highlights of my time in Boston and something that has taught me so much about food security. Most

recently, I also have witnessed how to run an incredibly successful non-profit to help hundreds of thousands of families and children in Massachusetts. I could not be more proud of the progress made and the successful programs launched all under the watchful eyes of great leadership and a great leadership team. Your dedication and effort helps so many. "

#### **About Project Bread**

Project Bread, the leading statewide anti-hunger nonprofit, connects people and communities in Massachusetts to reliable sources of food, while advocating for policies that make food more accessible—so that no one goes hungry. For more information, visit: [www.projectbread.org](http://www.projectbread.org).

**From:** [https://www.massnonprofit.org/expert\\_advice/boards\\_governance/project-bread-elects-dr-christopher-duggan-to-its-board/article\\_ba1e0b38-6c37-11ee-905d-03e63d57fd7e.html](https://www.massnonprofit.org/expert_advice/boards_governance/project-bread-elects-dr-christopher-duggan-to-its-board/article_ba1e0b38-6c37-11ee-905d-03e63d57fd7e.html)

## Doctoral Student Alan Espinosa Discovers an “Older Sister” to Combat Anemia



Photograph by Jim Harrison

Nutritional epidemiology doctoral student **Alan Espinosa**, PhD candidate in Nutritional Epidemiology, has invented *KiiKter*, a dietary fortification product designed to prevent childhood anemia. His product looks like the kind of applesauce squeeze bottle one would find in a child’s lunch box. Twist the top off KiiKter’s cheerful pastel pouch (complete with a rhinoceros mascot), take a sip, and consider the contents: the texture of Jello shortly after it’s been mixed with water—gelatinous yet swallowable—in strawberry, blueberry, pineapple, or orange flavors. It stands on its own as a flavorful goo, but it *also* contains the iron of one pound of steak, the folic acid of a cup of spinach, and the vitamin C of nearly nine apples.

Espinosa first noticed the burden of anemia while working with indigenous Mayan communities on the Yucatan Peninsula in his native Mexico while he was studying the relationship between the community’s diet and type 2 diabetes as an undergraduate at Universidad Marista de Mérida. “But while I was there,” Espinosa recalls, “I saw the prevalence of iron-deficient anemia in children, and how many struggled with malnutrition.” He began to wonder whether it would be possible to develop a daily consumable product that would provide the lacking essential nutrients.

It took four years to bring that idea into reality with considerable trial-and-error learning. Espinosa and friends tried several different mediums for the iron-rich formula: first, in 2016, a pudding prototype, then



later, a powder. But Espinosa noticed in both instances that the product design wasn't serving the communities for which it was intended. The semisolid formula required refrigeration—in communities with few refrigerators—and communicating the correct ratio of powder to water proved difficult in remote, at-risk locales. After recalibrating and developing the current gel formula in 2020—ready-to-eat, no refrigeration needed—the inventors named it *Kiikter*, which is a combination of Mayan words meaning “an older sister who takes care of you.” The name, Espinosa says, “reminds me of the fundamental idea behind what we’re doing: we want to actually help people.”

Anemia is a serious global public health challenge. “It’s prevalent in every group in the population, no matter their income, education, or age,” Espinosa explains. “And in children, anemia can condition a lot of outcomes in their adulthood.” Often, the condition begins when children don’t get enough iron from food. Low iron often means a low red-blood-cell count or anemia: the blood stream cannot ferry sufficient oxygen to the body’s tissues.

A few months ago, Espinosa and his co-founders traveled to Mexico City to see *Kiikter* in its first retail store. *Kiikter* has debuted in 70 branches of Farmacias de Ahorro, Mexico’s most prominent drugstore chain, and plans to expand to all 1,500 of its stores by the end of the year. Espinosa’s company became a finalist in last year’s Harvard President’s Innovation Challenge and received a \$100,000 grant from the Harvard Innovation Labs (i-lab), an accelerator designed to support Harvard student and alumni entrepreneurship. “Working with i-lab really opened up the U.S. market,” Espinosa says: the company is in talks with a grocery chain in the American Southwest. The nutritional needs might be different in the U.S. than Mexico, he notes, but there’s still a market: vegans.

At Harvard, Espinosa has worked under **Walter C. Willett**, professor of epidemiology and nutrition (and his Nutritional Epidemiology 102 teacher), analyzing data from Willett’s Health Professionals Follow-Up Study to determine how non-nutritive sweeteners such as aspartame relate to health problems like obesity, cardiovascular disease, and type 2 diabetes. For his dissertation, Espinosa plans to study how dietary patterns in the United Kingdom, Puerto Rico, and Mexico affect other health conditions and outcomes. Although his studies don’t directly involve *Kiikter*, he says the company and his time at Harvard are tied together by the same thread: “Every day, I want to be helping.”

To read entire article: <https://www.harvardmagazine.com/2023/11/university-people-alan-espinosa>

## MPH-65 Nutrition Students Delivered Applied Practice Presentations on October 3, 2023

By Stef Dean

In early October, our second year MPH students gathered to present their summer Applied Practice experiences to an audience of faculty and students. They shared details of their diverse projects and products as well as lessons learned along the way. From exploring consulting and workplace health to investigating corporate sponsorship in dietary supplement research, students used their skills and knowledge in a myriad of organizations and environments.

Several projects focused on maternal and child health and child nutrition including measuring program impact in Mississippi, assessing impact of child nutrition intervention in Nigeria, conducting a nutritional assessment of infants and toddlers in Peru, and obesity prevention in children in the Boston area. Others assessed food availability in food swamps in several neighborhoods in Kolkata, India while another translated the DASH diet into the West African DASH diet (WADASH) for hypertensive patients in Sierra

Leone. One project involved creation of and administration of a survey to measure subsistence practices in Hawaii related to assessing food security in the region.

Students engaged in creation of products and outcomes for their collaborating organizations ranging from literature reviews, program assessment, program evaluation, resource assessment and creation of performance measure tables. The student's work over the summer leaves useful products and information that can be used by the associated organizations to further their aims, goals, and missions.

The students gained knowledge, new perspectives, skills, and experience to carry forward as they complete their program this year and into their careers. Congratulations to the students and we look forward to seeing what lies ahead.

"The presentations delivered by the MPH students were excellent," commented by **Dr. Frank Hu**, Chair of the Department, who attended the presentations with several other faculty members, "I was particularly struck by the breadth and diversity of topics and the interesting personal experiences they shared from their MPH practicum projects as well as the lessons learned. It is evident that our MPH students are at the forefront of public health, addressing some of the most pressing public health challenges in different parts of the US and globally."

**The following MPH Students discussed their Applied Practice experiences:**

**Elizabeth Gunner** - Workplace Health & Disease Prevention, Deloitte

**Ally Zhang** - Healthy Moms, Healthy Babies: Measuring Program Impact in Mississippi, CDC

**Norman Xiaoyu Pan** - Explorations in Sports and Rehabilitation Clinical, Decision Making, and Epidemiological Perspectives - Long-term Outcome of Operative Versus Nonoperative Treatment of Rotator Cuff Tears, UT Southwestern Medical Center

**Meghan Harshaw** - Strategic Training Initiative for the Prevention of Eating Disorders, STRIPED & BCH

**Mackenzie Mayo** - Deloitte: Revenue Cycle Consulting, Deloitte

**Sofia Leonardo** - Accelerating Nutrition Results in Nigeria, World Bank and Federal Ministry of Health

**Yhon Alexander Salvatierra** - Nutritional Assessment of Children between 6 and 36 months old in Maras, Peru, Partners in Health (Socios En Salud)

**Muriel Samuels** - West African DASH Diet (WADASH): Translating the DASH Diet into Practical Treatment for Hypertensive Patients in Sierra Leone, Davidson Nicol Medical Center (Dr. Sylvester Nicol & Mr. Adeshola Stanley Williams)

**Hena Nafis** - Food Swamps in Kolkata, India: A Pilot Study on the Prevalence of Food Swamps in Kolkata, India, Dr. Shilpa Bhupathiraju

**Marissa Huggins** - Childhood Obesity and Food Insecurity - Inform, BCH, HMS

**Momi Afelin** - Subsistence and Food Security Update, Sustainable Molokai









## Updates from the Thich Nhat Hanh Center for Mindfulness in Public Health

By Jade Conway

### The Buddha the Scientist Retreat

In late September, The Thich Nhat Hanh Center for Mindfulness in Public Health collaborated with Deer Park Monastery for an extraordinary retreat and symposium, merging the timeless teachings of the Buddha with the forefront of scientific inquiry.

[The Buddha the Scientist Retreat](#) is a transformative journey into the present moment, empowering scientists, and the wider community to cultivate mental stability amidst the multifaceted challenges of our time.

Scientists from the Harvard T.H. Chan School of Public Health included:

- [Dr. Lilian Cheung](#)  
My Mindful Journey with Thay's Teachings  
\*Coming soon to YouTube
- [Dr. K. "Vish" Viswanath](#)  
Well-being and Happiness in the Age of Digital Media  
\*Coming soon to YouTube
- [Dr. Michelle A. Williams](#)  
Interconnectedness of Human's Actions on Planetary & Public Health  
\*Now available on YouTube [here](#)

### Center Launch Recordings Now Available

It is with great pleasure to announce that the videos from the April 26, 2023, Inaugural Symposium and Launch Celebration of the Thich Nhat Hanh Center for Mindfulness in Public Health are now available for viewing on our YouTube channel!

Please visit our official YouTube channel [@mindfulpublichealth](#) or click [here](#) for the full symposium playlist.

### Mindfulness Sessions: An Invitation to Sit for Peace

In October, the Center offered *An Invitation to Sit Together for Peace* in response to the violence in the



Middle East. Dr. Lilian Cheung read an [open letter](#) from the International Plum Village Community of Zen Master Thich Nhat Hanh and offered a guided meditation to help the Harvard Community cultivate solidity and stability, so we may open our hearts, radiate compassion, and support all who suffer from terrorism, conflict, and natural disasters.

This mindfulness session was a special opportunity for the Harvard community to practice mindfulness with a specific aim to promote oneness with humanity and peace in the world.

[Mindfulness Sessions](#) are ongoing, every Thursday from 1:00 p.m. to 1:50 p.m. All are welcome. No registration is required.



## Weekly Mindfulness Sessions

DAY	DATE	TIME	LOCATION
THURSDAY	SEP-7	1 - 1:50 PM	NUTRITION LIBRARY, ROOM 317
THURSDAY	SEP-14	1 - 1:50 PM	NUTRITION LIBRARY, ROOM 317
THURSDAY	SEP-21	1 - 1:50 PM	KRESGE ROOM 110
THURSDAY	SEP-28	1 - 1:50 PM	KRESGE ROOM 110
THURSDAY	OCT-5	1 - 1:50 PM	KRESGE ROOM 110
THURSDAY	OCT-12	1 - 1:50 PM	KRESGE ROOM 110
THURSDAY	OCT-19	1 - 1:50 PM	NUTRITION LIBRARY, ROOM 317
THURSDAY	OCT-26	1 - 1:50 PM	KRESGE ROOM 110
THURSDAY	NOV-2	1 - 1:50 PM	KRESGE ROOM 110
THURSDAY	NOV-9	1 - 1:50 PM	KRESGE ROOM 110
THURSDAY	NOV-16	1 - 1:50 PM	KRESGE ROOM 110
THURSDAY	NOV-30	1 - 1:50 PM	KRESGE ROOM 110
THURSDAY	DEC-7	1 - 1:50 PM	KRESGE ROOM 110
THURSDAY	DEC-14	1 - 1:50 PM	KRESGE ROOM 110
THURSDAY	DEC-21	1 - 1:50 PM	KRESGE ROOM 110

Questions? Email us at [mindfulpublichealth@hsph.harvard.edu](mailto:mindfulpublichealth@hsph.harvard.edu)



## NUTRITION SOURCE UPDATES

### Spotlight on Zumba

Zumba Fitness® is a popular program worldwide that involves aerobic exercise using Latin-inspired dance themes and music. Zumba has been found to boost intrinsic motivation, which is defined as engaging in an activity because of the innate pleasure it brings. <https://www.hsph.harvard.edu/nutritionsource/zumba/>

### New research highlight: Red meat and diabetes risk

People who eat just two servings of red meat per week may have an increased risk of developing type 2 diabetes compared to people who eat fewer servings, and the risk increases with greater consumption, according to a new study led by researchers from Harvard T.H. Chan School of Public Health. They also found that replacing red meat with healthy plant-based protein sources, such as nuts and legumes, or modest amounts of dairy foods, was associated with reduced risk of type 2 diabetes. <https://www.hsph.harvard.edu/news/press-releases/red-meat-consumption-associated-with-increased-type-2-diabetes-risk/>

### Tips for dealing with sugary leftovers

While one night of extra sweetness is not the problem, Halloween candy often lingers well beyond the holiday. Here are five quick tips for managing sugary leftovers. <https://www.hsph.harvard.edu/nutritionsource/2018/10/29/dealing-with-sugary-halloween-leftovers/>



## MONDAY NUTRITION SEMINARS

The Department of Nutrition holds its weekly **Monday Nutrition Seminar Series** every Monday throughout the academic year. The talks are varied, but they highlight the many different aspects of cutting-edge research that is currently being conducted in the fields of nutrition, planetary nutrition, public health nutrition, and global public health. These seminars are held from **1:00-1:50 pm** and are free and open to the public. Since Covid-19 our seminars have been a zoom and hybrid mix. Most of this year's talks will be in-person, although some will still be virtual. The in-person seminars will also be on Zoom for those unable to attend. Live seminars will be held in Kresge 502. Zoom link for viewing will be available one week prior to each seminar.

### Our Monday Nutrition Seminar speaker for November will be:

- Nov 6**      **Dr Mandana Arabi, MD, PhD**, Vice President of Global Technical Services and Chief Technical Advisor at Nutrition International – “Anemia Reduction as a Sustainable Development Goal: Time for accelerated scale-up of nutrition interventions and beyond” – NGHP
- Nov 13**    **Dr Daniel Wang**, Assistant Professor of Medicine, HMS; Assistant Professor in the Department of Nutrition, HSPH - TBD
- Nov 20**    **Dr Erica Kenney**, Assistant Professor of Public Health Nutrition, HSPH - TBD
- Nov 27**    **Dr Cindy Leung**, Assistant Professor of Public Health Nutrition, HSPH – TBD

## NUTRITION PICNIC A GREAT WAY TO WELCOME FALL!

The Nutrition Department Picnic took place on Saturday, October 14, 2023 from 11:00 am to 2:00 pm at the Larz Anderson Park in Brookline at the BBQ Shelter. A great time was had by one and all!















# 30<sup>th</sup> Anniversary TEIKYO-HARVARD SYMPOSIUM 2023

LESSONS LEARNED FROM THE  
COVID-19 PANDEMIC IN JAPAN  
& IN THE U.S.



07 November 2023  
08:30 AM to 12:30 PM

Rotunda, Joseph B. Martin Conference Center  
77 Avenue Louis Pasteur, Boston, MA 02115



## ABOUT

### TEIKO X HARVARD

Join us for a joint collaboration between Harvard T.H. Chan and Teikyo University to discuss key topics in public health.

### EVENTS

The theme of this year is “Lessons Learned from COVID”, contrasting the experiences of the U.S. and Japan during the pandemic.

**BREAKFAST AND LUNCH  
INCLUDED!**



## FEATURED SPEAKERS

### Bill Hanage, PhD

Associate Professor of  
Epidemiology  
Harvard T.H. Chan SPH



### Yoshiharu Fukada, MD, PhD

Dean of Teikyo University SPH  
Teikyo University SPH



### Dustin Duncan, ScD

Associate Professor of  
Epidemiology  
Columbia University Mailman  
SPH



### Yoshinori Nakata, MBA, MD, PhD

Professor of Health Policy and  
Management  
Teikyo University SPH



### Tori Cowger, MPH, PhD

FXB Health & Human  
Rights Fellow  
Harvard T.H. Chan SPH



**REGISTER TODAY!**

More information:

[teikoharvard2023.weebly.com](https://teikoharvard2023.weebly.com)

# **Integrating Nutrition into Clinical Medicine: The Role of Health Professionals as Change Agents**

Jan. 8-12, 2024 • M-Th 1-3PM, Fr 1-4PM • In-person at HSPH • 1.25 Credits (P/F)

## **IN THIS COURSE, WE WILL:**

- ✓ Examine the key evidence that links diet to both personal and planetary health.
- ✓ Review the current status of nutrition education and practice in the United States.
- ✓ Explore barriers and solutions to greater incorporation of nutrition in medical practice.



**More info and reviews**  
on my.Harvard



**NUT 280**  
**Registration**  
**begins**  
**Nov. 9 on**  
**my.Harvard**





DEPARTMENT OF NUTRITION

*Annual Holiday Party*

December 14, 2023  
4:30 PM - 7:00 PM

Sebastian's Café | First Floor of Kresge

All department faculty, student, staff,  
fellows, and families are welcome!