

NUTRI NEWS

The Department of Nutrition

February 2019

To subscribe to NutriNews, please contact Hilary Farmer, Editor: hfarmer@hsph.harvard.edu.

NEWS FROM AROUND THE NUTRITION DEPARTMENT

Aviva Musicus (right), ScD student, has been selected as a Bloom Fellowship recipient. The funds from this fellowship shall be used to provide financial support for enrolled students and/or postdoctoral fellows at the Harvard (Chan) School of Public Health. Recipients were selected on the basis of academic merit, leadership potential, and commitment to improving public health in fields and areas of the world in greatest need. Aviva's main research areas include the effects of food-related environmental and policy changes on human health and behavior, with a specific focus on the impact of food labeling, messaging, and marketing. Her advisor is **Professor Eric Rimm**.



Jun Li, Research Fellow, has also been awarded a Bloom Fellowship. Dr Li's research focuses on nutritional, genetic, and metabolomic factors in relation to cardiovascular disease and diabetes. Recently, she has focused on potential metabolic mechanisms underlying the association between the Mediterranean dietary pattern and CVD risk among diabetic individuals and is also examining dietary inflammatory potentials and CVD risk. Her mentor is **Dr Frank Hu**.

Professor Jorge Chavarro Receives Funding for New Infrastructure Grant



Dr Jorge Chavarro, Associate Professor of Nutrition and Epidemiology, has recently received an important infrastructure grant. Increasing evidence suggests that early life and reproductive events, including specific pregnancy complications, predict future health risks including cardiovascular (CVD) risk factors (e.g., dyslipidemia, hypertension, obesity), clinical CVD events, and obstructive lung disease. Similarly, increasing evidence suggests that exposures during pregnancy may affect offspring's cardiovascular and lung health throughout life. Dr Chavarro has recently received funding from the NHLBI to strengthen the infrastructure necessary to collect data on traditional and emerging risk factors for heart and lung diseases and to document the occurrence of these conditions within three related cohorts: the Nurses' Health Study II (NHS-II), the Nurses' Health Study 3 (NHS3), and the Growing Up Today Study (GUTS). These cohorts collectively follow 188,698 individuals, including more

than 14,000 minority participants with large numbers of African Americans and Hispanic Americans. The cohorts also follow more than 65,000 mother-adult offspring pairs, over 13,000 grandmother-mother-adult child triads, and over 16,000 sib-groups; resources that facilitate research aimed at identifying inter-generational risk factors for CVD and obstructive lung diseases. Women in the two younger cohorts (NHS3 and GUTS) are in the middle of the reproductive years, resulting in the accrual of approximately 1,000 new pregnancies per year. Furthermore, study participants are broadly distributed across the United States, giving us the ability to address questions regarding rural populations including areas considered to be Frontier. The proposed infrastructure activities in these three related cohorts will ultimately support research aimed at identifying intergenerational and early life risk factors for CVD (CHD, stroke) and obstructive lung disease (COPD and asthma), as well as of relevant intermediate endpoints, from genes to geography. Dr Chavarro's team will focus its efforts in four areas: 1) the maximization of existing resources – including updating and maintenance of food composition databases and geographically-linked exposure data based on geographical information systems (GIS), 2) the collection of biological specimens tied to an in-person collection of blood pressure and anthropometric data among 5,000 individuals, 3) the expansion of web-based mobile technology and "Big Data" capabilities for the cohorts, and 4) strengthening its capability for data sharing.

A major goal of this award is to incentivize independent investigators to submit investigator-initiated R01 applications that make use of the resources generated by this new funding to address scientific aims within the mission of NHLBI. The ability to combine biomarker data, state-of-the-art mobile high-resolution measures, and traditional epidemiologic risk factor data, collected across generations and throughout the life-course in three related cohorts will enable this group and others to conduct powerful etiologic and translational research.

If you are interested in learning more about opportunities to take advantage of these resources for your research, please contact **Jorge Chavarro**, PI of this project.

Dr Braulio Torres, a former NUT 209 student, together with Elena Rose Atkinson, recently wrote a brief article in the *Harvard Public Health Review* on diabetes prevention and food systems. While Dr Torres was a research fellow from 2017-2018 at MIT, he audited **Dr Guy Crosby's** course **Nutrition 209** in the fall of 2017 before returning to his native country Mexico in 2018. After taking this course, Braulio was very interested in returning to Mexico to promote beans as a healthy low-GI food. Because the consumption of beans had decreased by 50% in Mexico during the last two decades, he wanted to restore beans as a healthy inexpensive food. Dr Torres is now back in Mexico City launching an organization that works at the intersection of policy and impact investment for transforming food systems.

To read Dr Torres' article in the Harvard Public Health Review:

<http://harvardpublichealthreview.org/torresat/>

To learn more about Dr Torres project in Mexico:

www.proyectolaguajolota.org

New Faces in the Department!



Ana B. Maldonado-Cárceles

Visiting Scientist, Preventive Medicine and Public Health Physician

My name is Ana, and I'm from Spain (south-east, lovely weather!). In the next two years I will conduct research as a Visiting Scientist under **Dr. Jorge Chavarro's** supervision that will focus on understanding how nutritional factors influence ovarian reserve and other markers of female fertility.

I obtained my Medical Doctor and MPH Degrees at the University of Murcia (Spain) and I have recently finished the Medical Residency Program on Preventive Medicine and Public Health at the "Reina Sofía" General University Hospital in Murcia. Before joining the Department of Nutrition, I was working at the Cartagena University Hospital Complex (Spain). Since my enrollment in the Medical Residency I'm following a research area in the preventive and risk factors associated with reproductive parameters and infertility.

In my spare time, I love outdoor activities, and listen to music and play drums and the tin whistle, among other leisure activities.

Qiaoli Wang
Visiting Student

Hi everyone! I'm Qiaoli from Stockholm and very thrilled to be a member of your department at Harvard TH Chan School of Public Health. I have an MD and am now earning a PhD at the Karolinska Institutet, Sweden. My doctoral thesis is about the etiology, prediction and prevention of esophageal squamous cell carcinoma, which includes global incidence trends analysis, etiological analysis, register-based analysis, and prediction model development. At Harvard, I will be an exchange student for about half a year, supervised by **Prof. Edward Giovannucci**. I will work on cancer epidemiology and metabolomics, the areas that interest me most.



I'm an easy-going and out-going girl. During my leisure time, I like playing badminton, gym, jogging, photography and cooking. I also enjoy visiting different museums and watching movies with friends at weekends. If you happen to be big fan of badminton or photography, please contact me asap. Cheers!

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 and global public health. These seminars are held from **1:00-1:20 pm in Kresge 502** at the Harvard T.H. Chan School of Public Health. The seminars are free and open to the public.

The following speakers will present their work in March:

- March 4:** **Dr Jennifer Coates**, Associate Professor, Tufts University Friedman School of Nutrition Science and Policy. TBD. (NGHP) For more information, please contact: lpedulla@hsph.harvard.edu
- March 11:** **Dr Rikard Landberg**, Professor, Department of Biology and Biological Engineering; Head of Division of Food and Nutrition Science, Chalmers University of Technology, Gothenburg, Sweden. TBD.
- March 18:** **SPRING BREAK**
- March 25** **Dr Ivan J Perry**, Professor of Public Health, School of Public Health, University College Cork. TBD.

For more information, contact: hfarmer@hsph.harvard.edu

NEW FACULTY APPOINTMENTS:

Guy A. Crosby, PhD, has been reappointed as Adjunct Associate Professor in Nutrition. Dr Crosby is the primary instructor for **Nutrition 209**, *Seminars in Food Science, Technology, and Sustainability*, a 2.5-credit course that is offered every other fall semester. Dr Crosby lends his expertise to the Department in many ways. For example, he has served as a technical resource on food science and technology for students at the Harvard T. H. Chan School of Public Health, the Harvard Medical School, and Harvard Business School. In this capacity he has advised several business graduate students with their projects on developing food-related ventures, as well as several faculty members associated with the medical school on topics related to culinary medicine. In the Department of Nutrition Dr Crosby will work with **Dr Walter Willett** to identify and establish working relationships with several US organizations for producing special food products required for a clinical study on the role of carotenoids in slowing or reducing cognitive decline.

Dr Crosby will also continue to serve as the scientific advisor for the New York City Department of Health's initiative to reduce "added sugars" in processed foods and beverages. He will also serve as an invited member of the Advisory Council of the School of Culinary Science and Nutrition at the Culinary Institute of America in Hyde Park, New York, and on the *Food Task Force* of Boston's Museum of Science. Dr Crosby also serves on the advisory committee for the Food Science Program at Framingham State University.

He is the sole author of a book, to be published in 2019 by Columbia University Press, on how the evolution of science transformed the art of cooking.

NUTRITION IN THE NEWS

Diabetics Who Eat Nuts May Have Lower Risk for Heart Disease



According to a study led by **Dr Gang Liu**, Research Associate, people with diabetes who eat nuts on a regular basis (5 svgs/wk) are 17% less likely to develop heart disease than those with diabetes who rarely, if ever, consume nuts. Further, even just consuming 1 svg/wk of nuts might be beneficial to the heart. Even after researchers accounted for other risk factors for heart problems such as obesity, eating and exercise habits, medication use, how long patients had diabetes, and how much they ate nuts before they were diagnosed with diabetes, nuts were still associated with a lower risk of heart disease.

Liu said that "These data provide novel evidence that supports the recommendation of incorporating nuts into healthy dietary patterns for the prevention of cardiovascular disease complications and premature

deaths among individuals with diabetes.” The authors found that tree nuts were linked to a lower risk of heart disease than peanuts and speculate that tree nuts tend to be consumed with their skins on (which is where most antioxidants are), while peanuts are usually salted and roasted.

Gang Liu, Marta Guasch-Ferre, Yang Hu, Yanping Li, Frank B Hu, Eric B Rimm, JoAnn E Manson, Kathryn Rexrode, and Qi Sun. Nut Consumption in Relation to Cardiovascular Disease Incidence and Mortality among Patients with Diabetes Mellitus. *Circ Res*. 19 Feb 2019; doi.org/10.1161/CIRCRESAHA.118.314316

See also:

<https://www.reuters.com/article/us-health-diabetes-nuts/eating-nuts-tied-to-lower-heart-disease-risk-for-diabetics-idUSKCN1Q82RQ>

<https://newsroom.heart.org/news/eating-nuts-may-reduce-cardiovascular-disease-risk-for-people-with-diabetes?preview=1757>

https://www.upi.com/Health_News/2019/02/19/Nuts-may-lower-cardiovascular-disease-risk-from-type-2-diabetes/4161550541297/

Study Found that Men Who Smoked Marijuana Had Higher Sperm Concentrations

According to a new study led by **Dr Feiby Nassan**, Postdoctoral Research Fellow, there were significantly higher concentrations of sperm content in men who had smoked marijuana at some point in their lives compared to men who had never smoked marijuana.

The results of this study, which had been conducted at Massachusetts General Hospital’s Fertility Clinic, ran contrary to the authors’ initial hypothesis that marijuana smoking would be associated with worse semen quality. This study also found an association of higher testosterone levels with greater use of marijuana. “These unexpected findings highlight how little we know about the reproductive health effects of marijuana, and in fact of the health effects of marijuana in general,” said Dr Jorge Chavarro, Associate Professor of Nutrition and Epidemiology and senior author of the study.

Although the study was rigorously conducted, the data was surprising, so nevertheless results must be interpreted with caution until more studies can be conducted to study the health effects of marijuana use. The participants in this study were members of a sub-fertile population seeking fertility treatment so results may not be generalizable to the general population. Another limitation may be the fact that because marijuana use was illegal during part of the study period, participants may have under-reported their marijuana use.

“Marijuana smoking and markers of testicular function among men from a fertility centre,” Feiby L. Nassan, Mariel Arvizu, Lidia Mínguez-Alarcón, Paige L. Williams, Jill Attaman, John Petrozza, Russ Hauser, and Jorge Chavarro, *Human Reproduction*, online February 5, 2019, DOI: 10.1093/humrep/dez002

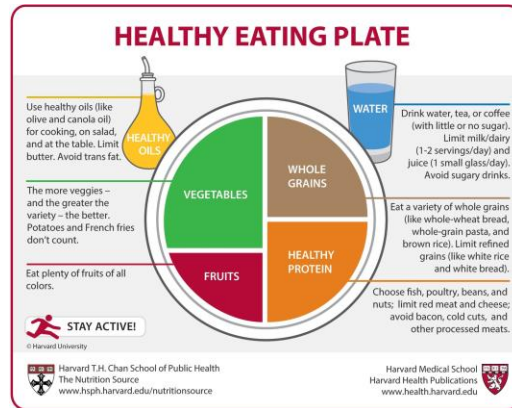
To read more:

<https://www.hsph.harvard.edu/news/press-releases/marijuana-smoking-sperm-counts/>

<https://www.bostonglobe.com/news/marijuana/2019/02/05/marijuana-smoking-may-linked-with-having-higher-sperm-concentrations/vOJN4bhlqJAZQUHPI0jFoj/story.html>

<https://www.reuters.com/article/us-health-sperm-marijuana/pot-smokers-may-have-healthier-sperm-idUSKCN1QE24M>

Guidelines for a Healthy Meal



In a February 12, 2019 article in the Boston Globe, **Dr Walter Willett**, Professor of Epidemiology and Nutrition, suggested some guidelines for eating a healthy meal. In a nutshell:

- Choose a wide variety of vegetables, making them the largest component of your meal
- Eat a large variety of fruits, avoiding sugary fruit drinks
- Eat lean poultry and fish in small amounts (and red meat in even smaller amounts)
- Replace meat with nuts and legumes because they are very healthy proteins
- Consume dairy products in modest amounts, and try to eat plain, unsweetened yogurt
- Oatmeal in the morning with nuts and fruit is best for breakfast, although eggs are OK too
- Choose complex carbohydrates over refined carbohydrates

Willett says that our meals should try to resemble Harvard's Healthy Plate [link]; a healthy meal should try to adhere to the Mediterranean diet. Other tips include doing your own cooking whenever possible, maintaining a well-stocked refrigerator and pantry, and watching out for chemical-sounding ingredients and excess/added sodium and added sugar. Willett also, along with other nutrition experts, all stress that frozen vegetables and canned beans and fish are perfectly healthy, too. Finally, the best way to enjoy your healthy meals is to add a generous portion of spices to make them tasty.

From: <https://www.hsph.harvard.edu/news/hsph-in-the-news/healthy-meals-willett-protein/>

Read the Boston Globe article: [What does a healthy meal look like these days?](#)

Learn more:

[Healthy Eating Plate](#) (Nutrition Source)

[A diet to improve planetary health and human health](#) (Harvard Chan School news)

[Q&A: Taking nutrition headlines with a grain of salt](#) (Harvard Chan School news)

<https://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/>

Plant-Based MUFAs Better for Cardiovascular Health than MUFAs from Animal Proteins

In a recent paper published in *Circulation*, **Dr Marta Guasch-Ferre**, Research Scientist, and **Dr Geng Zong**, co-first authors, examined whether monounsaturated fatty acids (MUFAs) from different food sources, specifically, from plant or animal sources had different effects on total and cardiovascular

mortality.

Dietary MUFAs can come from both plant and animal sources, but the two types of foods contain divergent nutrient components. For example, animal foods are usually high in the unfavorable saturated fats, whereas plant sources of MUFA are also high in polyunsaturated fats. The authors hypothesized that such differences in nutrients may potentially explain current controversies regarding MUFA intake and chronic diseases in population-based studies. MUFAs from animal foods come mainly from animal fats used for cooking, dairy products, eggs, poultry, processed and unprocessed red meats, and fish; MUFA-Ps come from plant-based foods, such as vegetable cooking oils (especially olive oil), breads and cereals, fruits, vegetables, legumes, nuts and seeds.

Results indicate that participants from the HPFS study who had a higher intake of MUFA from plant sources had 16% lower risk of total mortality (death from any cause) after 22 years of follow-up. On the contrary, those participants with higher intake of MUFA from animal sources had 21% higher risk of total mortality. In addition, those participants who replaced 2-5% energy from saturated fatty acids, refined carbohydrates (like simple sugars) or trans fats with the same amount of energy from MUFA from plant sources had 10%-15% lower risk of total mortality. Similar associations for cardiovascular mortality were observed.

This study is important because MUFAs are a healthy type of fat. In general, their findings support a beneficial role of MUFAs for the prevention of cardiovascular and total mortality, when plant-based foods such as vegetable oils, nuts, and related products are the primary sources. Additionally, significantly lower mortality risk was observed when SFAs, *trans* fats, or refined carbohydrates were replaced by MUFA-Ps but not MUFA-As. Recently, dietary recommendations have shifted toward diets including higher quantities of plant-based foods over animal-based foods. In the past years, worldwide organizations and the 2015 dietary guidelines for Americans have emphasized the importance of the quality of dietary fat rather than the quantity of fat consumed. Specifically, the intake of vegetable fats, oils and other fats from plant sources has been encouraged while the intake of animal fats, and particularly red and processed meat, has been discouraged. These results are in accordance with these recommendations. A wide range of dietary patterns can be considered healthy and beneficial for health including plant-based diets, vegetarian diets, and Mediterranean diet, among several others. For example, Mediterranean diet includes olive oil and nuts as key components, and both olive oil and nuts are main sources of MUFA-Ps.

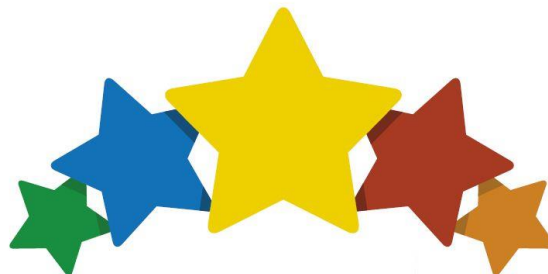
Guasch-Ferre M, Zong G, Willett WC, Zock P, Wanders AJ, Hu FB, Sun Q. Associations of Monounsaturated Fatty Acids From Plant and Animal Sources With Total and Cause-Specific Mortality in Two U.S. Prospective Cohort Studies. *Circ Res.* 2019 Jan 28. doi: 10.1161/CIRCRESAHA.118.313996

To read more:

<https://www.medicalnewstoday.com/articles/321285.php>

<https://www.sciencedaily.com/releases/2018/03/180321162252.htm>

Harvard Celebrates Its Nutrition Stars!



The following members of the Nutrition Department were honored on February 28, 2019 for having achieved milestone anniversaries:

*******45 years*******

Walter Willett

*******30 Years*******

Betsy Frost-Hawes

*******25 years*******

Liz Lenart

Wafaie Fawzi

******20 years******

Lauren Dougherty

David Eisenberg

Jeremy Furtado

Natalya Goryacheva

Frank Hu

Paula Tocco

*****15 years*****

Hilary Farmer

Anne Lusk

Siobhan Saint-Surin

****10 years****

Jorge Chavarro

Ann Fisher

Majken Jensen

5 years

Susan Alexander

Sarah Aroner

Christopher Golden

Erika Kenney

Brett Otis

Christopher Robert Sudfeld

NUTRITION SOURCE UPDATES

Spotlight on Heart Disease

In recognition of “heart month,” learn about heart disease, and steps you can take to help prevent it.

<https://www.hsph.harvard.edu/nutritionsource/disease-prevention/cardiovascular-disease/>

Nuts for the Heart

A look at the research behind nuts and heart health: <https://www.hsph.harvard.edu/nutritionsource/nuts-for-the-heart/>

Are Anti-Nutrients harmful?

Anti-nutrients—naturally found in animals and many plant-based foods—earn their title because they can block the absorption of nutrients: <https://www.hsph.harvard.edu/nutritionsource/anti-nutrients/>

Incidence of obesity-related cancers is rising in younger adults

Research finds six obesity-related cancers are on the rise in younger U.S. adults:

<https://www.hsph.harvard.edu/nutritionsource/2019/02/04/incidence-of-obesity-related-cancers-is-rising-in-younger-adults/>

If you would like to remain current as to what is happening in the field of nutrition, please be sure to view our Nutrition Source website for the latest updates!

(See: <https://www.hsph.harvard.edu/nutritionsource/>)

The Department of Nutrition is currently seeking candidates for the position of Assistant or Associate Professor of Integrative Genomic Epidemiology. Please feel free to share this with your colleagues!

For more information: <https://academicpositions.harvard.edu/postings/8319>

20th Annual Harvard Nutrition and Obesity Symposium

LONGEVITY

Longevity & Aging:
Nutritional and Metabolic Mechanisms

SAVE THE DATE! July 10th & 11th, 2019

at The Joseph B. Martin Conference Center
Boston, MA

Invited Speakers:

Jan Vijg, Ph.D.	William Mair, Ph.D.	Nir Barzilai, M.D.
Rozalyn Anderson, Ph.D.	Vamsi Mootha, M.D.	Valter Longo, Ph.D.
Roman Kondratov, Ph.D.	Alex Soukas, M.D., Ph.D.	Bradley Willcox, M.D.
Mark Mattson, Ph.D.	Raul Mostoslavsky, M.D., Ph.D.	Jay Olshansky, Ph.D.
Susan Erdman, D.V.M., M.P.H.	Richard Miller, M.D., Ph.D.	

Presented by: