Welcome

The Harvard TREC Center is one of four NCI-funded research centers focused on investigating the relationship between obesity and cancer by integrating the study of diet, weight, and physical activity and exploring these effects on energy balance and cancer incidence and survival. The Harvard TREC Center draws on the multidisciplinary expertise of the faculty of the Harvard School of Public Health, the Harvard Medical School, the Harvard-affiliated Brigham and Women's Hospital, Children's Hospital Boston, Dana-Farber/Harvard Cancer Center, Harvard Pilgrim Health Care Institute, and the Harvard Center for Population and Development Studies. The Center is designed to increase the understanding of the determinants of obesity from the molecular to societal level and across the lifespan, to clarify the biological links of obesity with cancer risk and survivorship, to translate these findings into actionable behavioral interventions, to train the next generation of investigators in energetics (the study of energy balance) and cancer, and to disseminate this knowledge and develop public health strategies to reduce risk of obesity and cancer.

Special Thanks

Organizing Committee
Vanessa Boulanger
Joseiner Mattei

TREC Executive Committee
Frank B. Hu (Chair)
Jorge Chavarro
Francine Laden
Jennifer Ligibel
Jing Ma
Jeffrey Meyerhardt
Susan Redline
Bernard Rosner
Meir Stampfer
SV Subramanian
Elsie Taveras
Marianne Wessling-Resnick
Walter Willett

Scientific Advisory Committee
Wendy Chen
Kirsten Davison
Karen Emmons (Chair)
Ed Giovannucci
Chih-Hao Lee
Liming Liang
Matthew Smith
Vish Viswanath
Michelle Williams
The Harvard TREC Center is comprised of four research projects and four core areas.

- Sleep duration, energy balance, and insulin resistance in children
- Environmental and lifestyle factors, obesity and cancer-related biomarkers
- Energetics, fatal prostate cancer, and overall survival
- The impact of exercise and metformin on hyperinsulinemia in colorectal cancer survivors

- Administrative Core
- Bioinformatics Core
- Education, Training, and Outreach Core
- Developmental Core

For detailed information, please visit our website:

http://www.hsph.harvard.edu/trec/

Harvard TREC Trainees and Junior Faculty

- **Peter James**
  - Doctoral Candidate in the Epidemiology and Environmental Health Departments at HSPH;
  - Faculty Mentor: Francine Laden
- **Josie Mattei**
  - Yerby Postdoctoral Research Fellow, Department of Nutrition at HSPH;
  - Faculty Mentor: Frank Hu
- **Deirdre Tobias**
  - Postdoctoral Research Fellow, Department of Nutrition at HSPH;
  - Faculty Mentor: Frank Hu
- **Mingyang Song**
  - Doctoral Student, Department of Nutrition at HSPH;
  - Faculty Mentor: Ed Giovannucci
- **Xuehong Zhang**
  - Postdoctoral Research Fellow, Channing Laboratory;
  - Faculty Mentor: Jing Ma
- **William Mair**
  - Assistant Professor, Department of Genetics and Complex Diseases, HSPH
1:20-1:30  Arrivals and light refreshments

1:30-1:40  Welcome and opening remarks
Frank Hu, Harvard TREC Program Director/Lead-PI

1:40-1:50  Overview of the TREC Initiative
Linda Nebeling, National Cancer Institute

1:50-2:50  Keynote Address
Nathan Berger, Case Western Reserve University

2:50-3:10  Coffee Break

3:10-3:20  Overview of the Harvard TREC Center
Frank Hu, Harvard TREC Program Director/Lead-PI

3:20-5:20  Harvard TREC: Key Themes and the State of the Science

3:20-3:40  Built Environment and Obesity and Physical Activity
Francine Laden, Department of Environmental Health, HSPH; BWH-Channing Laboratory

Linda Nebeling, PhD, MPH, RD, FADA

Linda Nebeling, Ph.D., MPH, RD, FADA is the Chief of the Health Behaviors Research Branch, in the Behavioral Research Program (BRP), in the Division of Cancer Control and Population Sciences (DCCPS), National Cancer Institute (NCI) and the Lead Scientific Program Director for the Transdisciplinary Research in Energetics and Cancer (TREC) Centers initiatives (2005 – 2010; 2011 – 2016). Previously, she served as the Acting Associate Director of the BRP, DCCPS, and a Public Health Nutritionist in NCI’s National 5 A Day for Better Health Program. Dr. Nebeling has completed a post-doctoral fellowship with NCI’s Cancer Prevention Fellowship Program. She received her Ph.D. in Nutrition from Case Western Reserve University, an M.P.H. from Johns Hopkins University, School of Public Health and Hygiene, a B.S in Nutrition from Michigan State University, and a M.S in Human Nutrition from University of Nebraska-Lincoln. She is a graduate of the Dietetic Internship Program at Memorial Sloan Kettering Cancer Center, New York. Past experience includes serving as a Teaching Assistant in the Department of Nutrition, Case Western Reserve University, OH, and as a Clinical Dietitian at Memorial Sloan-Kettering Cancer Center, NY. In 2001, she was awarded the status of Fellow by the American Dietetic Association (FADA), now called the Academy of Nutrition and Dietetics. Her research has focused on the relationship between dietary behaviors in different population groups, especially for fruit and vegetable consumption, and the risk of cancer and other chronic diseases. She has authored numerous peer-reviewed publications, co-edited a textbook, and is a reviewer for many professional journals. She has received 3 separate NCI Merit Awards for exemplary contributions in the field of nutrition and health promotion. In 2011, she received the NIH Directors award for her efforts with the National Collaborative on Childhood Obesity Research (NCCOR), the NIH Merit Award for her leadership on TREC, and the NCI Outstanding Mentor Award to acknowledge exemplary mentoring and guidance of trainees in cancer research.
3:45-4:05  Sleep Duration, Childhood Energy Balance, and Insulin Resistance in Adolescence
Elsie Taveras, Harvard Pilgrim Health Care Institute; HMS; Children's Hospital

4:10 – 4:30  Energetic Factors, Lethal Prostate Cancer, and Survivorship
Jing Ma, HMS; BWH-Channing Laboratory

4:35-4:55  Energy Balance and Cancer Survivorship
Jennifer Ligibel, HMS; DFCI

5:00-5:20  Breast Cancer Risk Prediction: Modeling the time-varying effect of obesity through obesity profiles
Bernard Rosner, HMS; HSPH; BWH-Channing Laboratory

5:20-5:30  Closing remarks
Frank Hu, Harvard TREC Program Director/Lead-PI

5:30-6:00  Conference Reception
HMS New Research Building

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**Bernard Rosner, PhD**

Dr. Bernard Rosner is a Professor of Medicine (Biostatistics) at Harvard Medical School and Professor of Biostatistics at Harvard School of Public Health. Dr. Rosner is the author of the textbook Fundamentals of Biostatistics which is now in its 7th edition and has been used by over 100,000 students over the past 29 years and has authored or co-authored over 600 manuscripts mainly in the areas of cancer, cardiovascular disease and ophthalmology. His current research interests have been in the fields of longitudinal data analysis, analysis of clustered data, measurement error models in epidemiology and risk prediction in cancer and AMD. He has worked with ophthalmologists on epidemiologic studies and clinical trials over the past 30 years.
Frank Hu, MD, PhD, MPH

Dr. Hu is a Professor of Nutrition and Epidemiology at Harvard School of Public Health and Professor of Medicine, Harvard Medical School and Channing Laboratory, Brigham and Women's Hospital. He received his medical training at Tongji Medical University in Wuhan, China and obtained a doctoral degree in Epidemiology at University of Illinois at Chicago. Dr. Hu is co-director of the Program in Obesity Epidemiology and Prevention at Harvard, director of the Epidemiology and Genetics Core of NIH-funded Boston Obesity and Nutrition Research Center, and PI of the Harvard Transdisciplinary Research on Energetics and Cancer (TREC) Center. His research is mainly focused on nutritional and genetic epidemiology of obesity and type 2 diabetes as well as gene-environment interactions in relation to the development of metabolic diseases. Dr. Hu has published more than 400 original papers and reviews and a textbook on Obesity Epidemiology, and is associate editor of Diabetes Care. He is the recipient of an American Heart Association Established Investigator Award and the Kelly West Award for Outstanding Achievement in Epidemiology by American Diabetes Association in 2010. He has served on the editorial boards of several journals and grant review panels for NIH and the American Diabetes Association. Dr. Hu is a member of the Obesity Guideline Expert Panel at NHLBI and the NIH Genes and Environment Initiative (GEI) Steering Committee. He has also served on the Institute of Medicine (IOM) Committee on Prevention of Global Cardiovascular Disease Epidemic.

Jennifer A. Ligibel, MD

Dr. Jennifer Ligibel is a medical oncologist in the Women’s Cancer Program at Dana-Farber Cancer Institute and Assistant Professor at Harvard Medical School. Her research focuses on the study of energy balance and cancer. Dr. Ligibel has conducted several exercise studies in cancer populations and has published on the impact of physical activity upon serum biomarkers, anthropometric measures and psychosocial outcomes. She has recently completed a multicenter study looking at the feasibility of a telephone-based physical activity intervention conducted in the context of a Co-operative Group, and is also directing the lifestyle component of a multicenter trial looking at the impact of novel treatment approaches in 660 women with residual breast cancer after neoadjuvant chemotherapy. Dr. Ligibel is Co-Director of Project 4 of the Harvard TREC initiative, which looks at the impact to exercise and metformin on metabolic and inflammatory biomarkers in colorectal cancer survivors.
Dr. Berger attended Temple University, Hahnemann Medical College, served his internship in Medicine at Michael Reese Medical Center, Chicago, Illinois and his residency in Medicine at Barnes Hospital, Washington University, St. Louis, Missouri. From 1968 to 1971 he served as a Lieutenant Commander in the United States Public Health Service and was a Research Associate at the NIH, NICHD Gerontology Research Center, Laboratory of Molecular Biology, Baltimore, Maryland. He completed a fellowship in Hematology and Oncology at Washington University School of Medicine, St. Louis, Missouri and joined the faculty there before moving to Case Western Reserve University School of Medicine as Professor of Medicine and Biochemistry and Director of the Hematology/Oncology Division. He became the founding Director of the Case Western Reserve University/Ireland Cancer Center which was awarded NCI Cancer Center status in 1987 and subsequently was designated an NCI Comprehensive Cancer Center. He was Dean of Case Western Reserve University School of Medicine from 1995 to 2002. Dr. Berger is an active researcher whose research has focused on laboratory and translational aspects of poly (ADP-ribose) polymerase, DNA repair, stress proteins, and developmental therapeutics. His current research focuses on translational studies in Energy Balance and Cancer. He is Principal Investigator on two major multiinvestigator grants funded by the National Cancer Institute; 1) CASE Center for Transdisciplinary Research on Energetics and Cancer, and 2) Aging Cancer Research Program Development. He is also co-director of the Aging and Cancer Research Program at the Case Comprehensive Cancer Center. Dr. Berger’s practice of oncology is located in the Seidman Cancer Center of University Hospitals Case Medical Center.
Francine Laden, ScD

Dr. Laden is the Mark and Catherine Winkler Associate Professor of Environmental Epidemiology in the Environmental Health and Epidemiology Departments at the Harvard School of Public Health, and Associate Professor of Medicine at the Channing Laboratory in the Department of Medicine at the Brigham and Women’s Hospital and Harvard Medical School. She has a Masters of Science in Environmental Health and a Doctor of Science in Epidemiology, both from the Harvard School of Public Health.

Dr. Laden has focused her research on the environmental risk factors of chronic diseases and mortality, and the measurement of environmental exposures for epidemiology. For almost 20 years, she has been working with the Nurses’ Health Study, an ongoing follow-up study of US women, to examine possible environmental risk factors (including geographic variation, electromagnetic field exposures, and exposures to PCBs and the pesticide DDT) of breast cancer and non-Hodgkin’s lymphoma. She is also currently looking at air pollution exposures and cardiovascular disease, ultraviolet light exposures and skin cancer, and objective and perceived measures of the built environment and obesity and physical activity in this cohort and the other Harvard cohorts (Nurses’ Health Study II and the Health Professionals’ Follow-up Study). In these latter analyses, she has used geographic information systems (GIS) to model and define environmental exposures based on residential histories of the participants. In the Harvard Six Cities Study she has studied the associations of specific sources of particulate air pollution with mortality and the effect of pollution reductions on life expectancy. Dr. Laden is also involved in two occupational studies—the US Railroad Workers Study and the Trucking Industry Particle Study—examining the relationship of exposure to traffic exposures, including diesel exhaust, with lung cancer and other respiratory and cardiovascular mortality. The Truckers’ study is designed specifically to improve methods for exposure assessment in epidemiologic studies. Dr. Laden is the past Secretary-Treasurer of the International Society of Environmental Epidemiology (ISEE).

Elsie Taveras, MD, MPH

Elsie M. Taveras, M.D., M.P.H. is an Associate Professor of Population Medicine at Harvard Medical School and Assistant Professor of Pediatrics at Children’s Hospital Boston. She received her bachelor of science and medical doctor degrees at New York University in New York City. After receiving her M.D., she did her internship, residency, and chief residency, at the Boston Combined Residency Program in Pediatrics, a joint program of Children’s Hospital Boston and Boston Medical Center. In 2001, Dr. Taveras joined the Harvard Pediatric Health Services Research Fellowship Program and received her Master’s in Public Health with a concentration in clinical effectiveness from the Harvard School of Public Health.

Dr. Taveras is the Co-Director of the Obesity Prevention Program at the Department of Population Medicine. Dr. Taveras is also on staff at Children’s Hospital Boston where she directs a multidisciplinary childhood obesity prevention clinic in General Pediatrics.

Dr. Taveras’ main focus of research is understanding determinants of obesity in children and adolescents and developing interventions across the life course to prevent obesity in children, especially in underserved populations. Dr. Taveras’ publications have examined diet, activity, sleep, and weight determinants in later childhood, and early life origins of obesity in young children.