



**New Jersey Institute for Food, Nutrition, and Health
Rutgers, The State University of New Jersey
61 Dudley Road, New Brunswick, NJ 08901-8520**

**RESEARCH DAY
November 01, 2019**

AGENDA

1 - Breakfast and IFNH Leadership Reports - Room 101

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| 8.00-8.30am | Breakfast
<i>Harvest Cafe</i> |
| 8.30-9.20am | Welcome from IFNH Director (<i>M. Gloria Dominguez-Bello</i>)
Short -10min- Reports by IFNH Director (<i>M. Gloria Dominguez- Bello</i>), and
Center Directors (<i>Liping Zhao, George Carman, Daniel Hoffman, Sue Shapses</i>) |
| 9.20-9.30am | <i>Break</i> |
| 9.30-10.05am | <i>Short -5 min- presentations by Program Directors (Peggy Policastro, Joshua Miller, Erin Comollo) and Core Directors (Harini Sampath, Sue Shapses, Yan Lam)</i> |

2 - Rutgers Center for Lipid Research Presentations - Room 101

Chair: George Carman

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| 10.15-10.45am | Intestinal lipid metabolism and whole body energy balance
<i>Harini Sampath (RCLR, Department of Nutritional Sciences, SEBS)</i> |
| | Protein kinase C mediates the phosphorylation of the Nem1-Spo7 protein phosphatase complex in yeast
<i>Prabuddha Dey (RCLR, Department of Food Science, SEBS)</i> |
| | Phospholipids in fungal pathogenesis
<i>Chaoyang Xue (RCLR, Department of Microbiology and Molecular Genetics, New Jersey Medical School-Rutgers)</i> |
| | The role of lysobisphosphatidic acid (LBPA) in cholesterol clearance in Niemann-Pick Type C1 Disease
<i>Olga Ilnytska (RCLR, Department of Nutritional Sciences, SEBS)</i> |
| | Lipoprotein biosynthesis regulation by the main vitamin A precursor: β-carotene
<i>Elena Giordano (RCLR, Department of Food Science, SEBS)</i> |

2 – Center for Childhood Nutrition Research Presentations - Room 101

Chair: Daniel Hoffman

- 10.45-11.15am **Food systems and food security: impact on child health**
Shauna Downs (Department of Urban-Global Public Health, Rutgers School of Public Health)
- Prenatal exposure to endocrine disruptors and long-term health**
Emily S Barrett (Department of Epidemiology, Rutgers School of Public Health)
- Infant feeding patterns and childhood obesity**
John Worobey (Department of Nutritional Sciences, SEBS)
- African-indigenous vegetables and childhood micronutrient status**
Jim Simon (Department of Plant Biology, SEBS)
- Bodacious Broccoli: Assessing Preschool-Aged Children's Liking and Acceptance of Broccoli in Different Cooking Forms.**
Peggy PolICASTRO (NJHKL, Rutgers Dining, Nutrition Services and NJ IFNH)
- 11.15-11.30am Break

3 – Center for Nutrition, Microbiome and Health Presentations - Room 101

Chair: Yan Lam

- 11.30am-12.00pm **Association between intestinal inflammation and CNS autoimmunity**
Kouichi Ito, (Department of Neurology, Robert Wood Johnson Medical School)
- Sexual dimorphism in microbiome regulation by an oral flavonoid**
Harini Sampath (Department of Nutritional Sciences, SEBS)
- Phytochemicals, gut microbiota, and health**
Diana Roopchand (Department of Food Science, SEBS)
- Antibiotic resistance genes in the neonatal Microbiota**
Jincheng Wang (Department of Biochemistry and Microbiology, SEBS)
- Guild-based analysis for understanding gut microbiome in human health and diseases**
Guojun Wu (Department of Biochemistry and Microbiology, SEBS)

Chair: Sue Shapses

12.00-12.30pm

Cardiorespiratory Fitness, Statin Therapy and the Risk of Developing Type 2 Diabetes Mellitus

Peter Kokkinos (Department of Kinesiology and Health, SAS)

Using neural measures to predict exercise treatment response in major depression.

Brandon Alderman (Olson R, Brush C, Bocchine A; Department of Kinesiology and Health, SAS)

The Role of Activating Transcription Factor 4 in Dietary Sulfur Amino Acid Restriction-Mediated Alterations in the Transsulfuration Pathway.

William Jonsson (Margolies N, Mirek ET, Anthony TG; Department of Nutritional Sciences, SEBS)

Determinants of Successful Aging in a Mediterranean population: the multi-national MEDIS (MEDiterranean Islands) study.

Anastasia Papadimitriou (PI: Sidossis L, Department of Kinesiology and Health, SAS)

Vitamin D status and geriatric nutritional status as a risk factor for mobility, but not mortality after hip fracture.

Sue Shapses (L Hao, Y Schlüssel, H Noveck, Carson J) (Departments of Nutritional Sciences, SEBS; Department of Medicine, RJWMS)

5- Lunch

12.30-1.00pm

Harvest Cafe

6- Poster Session

1.00-2.30pm

Atrium, Floors 1 and 2

George M. Carman, PhD

Director, Rutgers Center for Lipid Research

Dr. George M. Carman is the Board of Governors Professor of Food Science and Founding Director of the [Rutgers Center for Lipid Research](#), New Jersey Institute for Food, Nutrition, & Health. He received his B.A. degree from William Paterson University, M.S. degree from Seton Hall University, and Ph.D. degree from the University of Massachusetts. His postdoctoral training was at the University of Texas Medical School in Houston. Dr. Carman's laboratory is recognized internationally for its work on the biochemical and molecular characterization of phospholipid metabolism/signaling in the yeast *Saccharomyces cerevisiae*. He has authored over 200 refereed publications and has written several review articles on phospholipid metabolism and on its regulation. Dr. Carman is a Fellow of the American Academy of Microbiology, and is the recipient of the Avanti Award in Lipids-American Society for Biochemistry and Molecular Biology (ASBMB), Supelco/Nicholas Pelick Research Award-American Oil Chemists Society, Faculty Mentor of the Year Award-Compact for Faculty Diversity, Chancellor's Award Lectureship in Neuroscience-LSU School of Medicine, Journal of Lipid Research Lectureship Award, Selman A. Waksman Honorary Lectureship Award, Rutgers University Board of Trustees Award for Excellence in Research, and the New Jersey Agricultural Experiment Station Research Excellence Award. He is a former chair and organizer of the Gordon Research Conference on Lipid Metabolism and the Keystone Symposium on Lipid Second Messengers, and served as chair of the ASBMB Program Planning Committee and the ASBMB Meetings Committee. He served as President of the Theobald Smith Society, the New Jersey branch of the American Society for Microbiology, and served on the Physiological Chemistry and the Biochemistry and Biophysics of Membranes Study Sections of the National Institutes of Health. Dr. Carman currently serves as an Associate Editor of the Journal of Biological Chemistry and of the Journal of Lipid Research, and Executive Editor of Analytical Biochemistry.

Erin Comollo, EdD

Presenting for David Krol, MD, MPH, FAAP, Medical Director for the New Jersey Health Kids Initiative

Dr. Erin Comollo is the Program Development Administrator for the New Jersey Healthy Kids Initiative (NJHKI) in the Institute for Food, Nutrition, & Health at Rutgers University. Her primary role is working with school leaders and educators to assess and improve their schools' nutrition education, culinary literacy, and physical activity policies, systems, and environments. She is a strong believer that physical activity and healthy eating play a crucial role in children's physical, social-emotional, and cognitive development. As a former classroom teacher, Erin brings over twelve years of teaching and curriculum development expertise to the NJHKI. As a CrossFit Level 2 and CrossFit Kids Trainer, Erin has worked with individuals, small groups, and children to develop healthy lifestyles that focus on fitness and nutrition. Erin received an undergraduate degree in Early Childhood Education and Fine Arts, as well as her Master's degree in Early Childhood Education and Supervision from The College of New Jersey. Erin completed her Doctorate of Education at the Rutgers University Graduate School of Education with a concentration in Teacher Leadership.

Maria Gloria Dominguez-Bello, PhD

Interim Director, NJ Institute for Food, Nutrition, and Health

Maria Gloria Dominguez-Bello is the Henry Rutgers Professor of Microbiome and Health at Rutgers University, affiliated to the Department of Biochemistry and Microbiology, and also to the Department of Anthropology. She is also the interim Director of the Institute for Food Nutrition and Health (IFNH). She

is a Fellow of the American Academy of Microbiology, and of the Infectious Disease Society of America (IDSA), and has been a member of the Editorial Board or a reviewer at several scientific journals, and invited reviewer at funding entities, including NSF, NIH, and different Foundations. She has ~140 publications on vertebrate-microbial symbiosis, acquisition and development of the human microbiome, effects of antimicrobial modern practices on the microbiome, and strategies for restoration. She works on gradients of urbanization in South America and Africa, through global synergistic collaborations. She is leading the global initiative of the Microbiota Vault, to preserve the diversity of the microbes relevant to human health.

Daniel J. Hoffman, PhD

Director, Center for Childhood Nutrition Research

Daniel Hoffman received his PhD in Nutritional Biochemistry and Physiology in 1999 from the Tufts University Friedman School of Nutrition Science and Policy, completed post-doctoral training at Columbia University and is now an Associate Professor in the Departments of Nutritional Sciences and Epidemiology and the Director of the Center for Childhood Nutrition Research (CCNR). Dr. Hoffman's area of expertise is energy metabolism, body composition, and international nutrition. As the director of the CCNR, Dr. Hoffman is responsible for coordinating interdisciplinary research on childhood nutrition as well as managing program development for a Robert Wood Johnson Foundation initiative and the Rutgers Program in International Nutrition. The focus of Dr. Hoffman's research program is to study the relationship between poor growth in childhood and the development of chronic diseases in adulthood. To accomplish this, Dr. Hoffman directs or collaborates on research projects in Brazil and Mexico to better understand how poor growth early in life influences metabolism and body composition later in life as potential risk factors for chronic diseases. In addition, Dr. Hoffman is a Co-Principal Investigator of a project in Kenya and Zambia to evaluate the impact of increased intake of African-Indigenous Vegetables on dietary diversity and health in rural households. An author of numerous papers and chapters on energy metabolism, body composition, and pediatric nutrition, Dr. Hoffman is also the Deputy Editor of the [British Journal of Nutrition](#) and [Public Health Nutrition](#) and a member of the Editorial Board of [Journal of Nutrition](#) and [Annals in Human Biology](#). Aside from academic work, Dr. Hoffman is an expert consultant to the International Atomic Energy Agency of the United Nations where he provides advising on nutrition-related projects using stable isotopes.

David Krol, MD, MPH, FAAP

Medical Director for the New Jersey Healthy Kids Initiative

David Krol, a pediatrician, serves as Medical Director of the New Jersey Healthy Kids Initiative at Rutgers. David is also a Clinical Associate Professor in the Department of Pediatrics, Rutgers-Robert Wood Johnson Medical School and an Adjunct Associate Professor in the Department of Pediatric Dentistry, Rutgers School of Dental Medicine. A leader in children's oral health, Dr. Krol has served on many expert panels, technical advisory groups, and taskforces. Dr. Krol has provided pediatric primary care to the underserved in Connecticut, New York, Ohio and New Jersey, testified before federal, state and local legislators on behalf of children, and published his work in *Pediatrics* and other journals. David received his undergraduate degree from the University of Toledo. Drafted by the Minnesota Twins, he played professional baseball for three years. David received his MD from Yale University School of Medicine and completed his residency in pediatrics at Rainbow Babies and Children's Hospital, Cleveland. He received an MPH from the Mailman School of Public Health, Columbia University and is an alumnus of the Robert Wood Johnson Clinical Scholars program and a former Bush Fellow in Child Development and Social Policy at Yale University. Dr. Krol is a diplomate of the American Board of Pediatrics and a Fellow of the American Academy of Pediatrics.

Yan Lam, PhD

Director, Microbiome Core

Yan Lam is an Assistant Research Professor at the Department of Biochemistry and Microbiology. Dr. Lam received nutritional biochemistry and clinical dietetics training in Australia. In 2017, she was invited to join Dr. Liping Zhao's lab at Rutgers University to pursue research in the new area of microbiome nutrition. Dr. Lam leads the newly established Rutgers Center for Microbiome Analysis, also part of the Microbiome Core at IFNH, which aims to facilitate high-quality multi-disciplinary microbiome research within Rutgers and beyond.

Joshua Miller, PhD

Director, One Nutrition

Joshua Miller is Professor and Chair of the Department of Nutritional Sciences in the School of Environmental and Biological Sciences at Rutgers, The State University of New Jersey, and is the coordinator of the IFNH One Nutrition program. Dr. Miller's primary expertise is in B vitamins (folate, vitamin B12, vitamin B6, riboflavin) and one-carbon metabolism. His research focuses on the influences of B vitamins and related metabolites on cognitive function and risk of Alzheimer's disease and dementia in older adults. He also has research interests in novel strategies for assessing vitamin B12 status and absorptive capacity, and the influence of riboflavin on blood pressure in individuals genetically predisposed to hypertension. His work has been funded by the NIH, the American Cancer Society, and the Breast Cancer Research Programs of the State of California and the U.S. Department of Defense.

Peggy Policastro, PhD

Director, Culinary Health Program

Peggy Policastro is the Director of the Culinary Nutrition Program at the IFNH. Dr. Policastro works with children and adolescents using Behavioral Economics to nudge individuals towards healthier food choices. Dr. Policastro believes making a healthy food choice the easiest/most salient option is the most effective way to encourage behavior change. Dr. Policastro has used the various dining facilities as living laboratories to harness behavior change. Her research findings showed that just posting a simple calorie message about sugar sweetened beverages, increased water sales by approximately 6% over seven weeks. Dr. Policastro is a Registered Dietitian who was named the 2012 Academy of Nutrition and Dietetics Nutrition Educator of the Year. She directs the IFNH Student Ambassador Program and was named 2018 Rutgers University Student Supervisor of the Year. Dr. Policastro works closely with Chefs to institute Menus of Change principles and is an active member of the Menus of Change University Research Collaborative where she holds the position of Chair of the Academic Committee. Peggy holds a PhD in Interdisciplinary Studies-Nutritional Science and Psychology from Rutgers University

Harini Sampath, PhD

Director, Analytical Core

Harini Sampath is an Assistant Professor in the Department of Nutritional Sciences and the New Jersey Institute for Food, Nutrition, and Health, at Rutgers University. In her work, she uses her training in Biochemical and Molecular Nutrition to identify nutritionally and genetically-modified pathways leading to metabolic diseases such as type 2 diabetes and cardiovascular disease. Her work has been funded by the NIH, the Marie-Curie Foundation, and the American Heart Association and has been published in numerous journals including the Journal of Biological Chemistry, the American Journal of Physiology, Cell

Metabolism, and Endocrinology. Harini received her Ph.D. from the University of Wisconsin-Madison in 2008 and her B.S. from the University of New Hampshire in 2002.

Sue Shapses, PhD, RDN

Director for the Center for Human Nutrition and Exercise & Metabolism

Sue Shapses is the Director for the Center for Human Nutrition and Exercise & Metabolism at the Rutgers Institute for Food, Nutrition, Health, a Professor in the Department of Nutritional Sciences, and an Adjunct Professor in the Department of Medicine, Rutgers-RWJ Medical School. She is team leader of the NJ Obesity Group. She received her MS and PhD from Columbia University (IHN) followed by postdoctoral training at Albert Einstein College of Medicine (Critical Care Medicine) and at Columbia University (Orthopaedic Biochemistry) with more recent training in the Department of Endocrinology, University of Sydney, Australia. Dr. Shapses has served on the Institute of Medicine committee to develop the current Dietary Reference Intakes for vitamin D and calcium. She devotes time to serve as Associate Editor for the Am. J. Clinical Nutr., and as Editor for Nutrition, Exercise & Lifestyle Section of Current Osteoporosis Reports. Dr. Shapses teaches undergraduate and graduate students and works closely with research students on clinical and translational projects. Dr. Shapses' research emphasizes the endocrine regulation of obesity and osteoporosis using caloric restriction and nutrients to study gastrointestinal absorption and bone metabolism. Studies also address dietary protein and quality, and vitamin D regulation of bone, glycemic indices, appetite, and cognitive domains.

Liping Zhao, PhD

Director, Center for Nutrition, Microbiome, and Health

Liping Zhao is the Director for the Center for Nutrition, Microbiome and Health at the Institute for Food, Nutrition, and Health and is also the Eveleigh-Fenton Chair of Applied Microbiology, Department of Biochemistry and Microbiology at the School of Environmental and Biological Sciences at Rutgers University. His work consists of developing molecular and genomic tools for systems understanding and predictive manipulation of the complex microbial communities in human and animal guts. Research consists of understanding interactions between diet and gut microbiota in onset and progression of chronic diseases such as obesity and diabetes and also in formulating interventions integrating traditional Chinese medicine and medicinal foods into modern day diet to modulate the relationship between gut microbiota and humans for achieving preventive health care.