



Nutrition
Center



Institute for the Advancement
of Food and Nutrition Sciences

**IAFNS Arkansas Children's Nutrition Center (ACNC)
Webinar Series: May 2022
Working Agenda (April 12, 2022)**

May 17th 2022 (10:00 – 11:30 am ET)

Early Life Determinants of Metabolic Health: Impact of Fitness and Physical Activity

Description: Maternal obesity predisposes offspring to excessive weight gain in early life. Pediatric obesity impacts normal growth and development and increases cardiometabolic disease susceptibility across the lifespan. In adults, physical fitness is a strong predictor of cardiovascular and all-cause morbidity and mortality. However, the role of early life physical activity and fitness in modifying cardiometabolic health trajectories, and whether the impact of exercise/physical activity interventions vary across different periods of development, are poorly understood. Further, it is unclear how trainable physical fitness is in offspring from parents with obesity and/or low physical fitness. At Arkansas Children's Nutrition Center, these questions are studied in the Laboratory for Active Kids and Families and in preclinical novel models.

Introduction to and overview of the ACNC

Dr. Mario Ferruzzi
University of Arkansas ACNC

Obesity, fitness and cardiometabolic health in children

Dr. Elisabet Børsheim
University of Arkansas ACNC

Development and optimization of rodent models to study metabolic health across the lifespan

Dr. Craig Porter
University of Arkansas ACNC

May 23th 2022 (10 – 11:30 pm ET)

Focus on the Gut and the Brain

Description: The goal of this webinar is to discuss the effects of the fetal environment and postnatal feeding behaviors on infant gut, immune system and brain health. The speakers will describe data on the role of maternal weight status on brain development, and the impact of chosen feeding regimens on brain and cognitive development and on infant gut and immune system. This will lead to additional information concerning the impact of weight status in children and adolescents on cognitive function and academic achievement. There is increasing interest in the functional interactions between gut and brain development over the lifespan, and the speakers hope to develop this theme over the course of the webinar and to engender discussion on mechanisms to further research in this area.



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The impact of feeding behaviors on cognitive development in children

Dr. Linda Larson-Prior
University of Arkansas ACNC

Diet, activity, and body weight status: impacts on the developing brain

Dr. Xawei Ou
University of Arkansas ACNC

Milk, microbes, and metabolism: Lessons learned from animal models

Dr. Laxmi Yeruva
USDA-ARS, University of Arkansas ACNC

May 26th 2021 (10:00 – 11:30 ET)

Maternal and Child Diet & Physical Activity

Description: The session will present the work of Drs. Aline Andres and Taren Swindle, affiliated faculty members at the Arkansas Children's Nutrition Center, exploring life course determinants of health during several critical periods, including preconception, pregnancy and early childhood. Progress in our understanding of maternal programming of offspring metabolism will be summarized, followed by a review of interventions that may mitigate such effects. In addition, maternal determinants of human milk composition that affect child's growth and body composition will be explored. After a brief presentation of an implementation science framework, the session will focus on the results of an early childcare intervention intended to improve intake of fruits and vegetables in children age 3 to 5y. In closing, a review of other implementation projects aiming at improving physical activity in pregnant women and preschoolers will be provided.

Prenatal and postnatal programming of health

Dr. Aline Andres
University of Arkansas ACNC

Implementation science to improve diet and physical activity in early life

Dr. Taren Swindle
University of Arkansas ACNC