



The Department of Nutritional Sciences Fall 2023 Seminar Series

"Branched Chain Amino Acids and Hepatic Mitochondrial Function"

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Host: Malcolm Watford, D. Phil

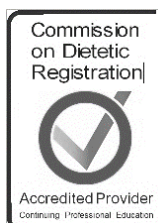
Professor of Nutritional Sciences, Rutgers



Wednesday, November 29, 2023 @ 2:15 PM
FSNS Building 65 Dudley Road, New Brunswick, Room 120
<https://go.rutgers.edu/Sunny-Seminar>



Elevated circulating levels of branched chain amino acids (BCAAs) and defects in their catabolic networks are central features of insulin-resistant tissues during obesity, diabetes mellitus and liver dysfunction. Further, these alterations in BCAA metabolism coexist with those in the biochemical networks of lipid oxidation and synthesis in insulin-resistant tissues. Our goal is to identify the mechanisms by which BCAAs and their degradation pathways modulate mitochondrial oxidative networks and lipogenesis in the liver. Our recent findings highlight how BCAA supplemented, insulin sensitive mice have higher mitochondrial NADH: NAD⁺ ratio and AMPK activation in the liver. This change in cellular redox provides a metabolic milieu favoring fatty acid oxidation while lowering the rates of de novo lipogenesis in the liver.



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