

DIVISION OF MEDICAL SCIENCES SEMINAR SERIES



Space Spinoff Technologies: Developing dietary countermeasures for radiation injury

Dr. Carlos Montesinos

Chief Scientist & Managing Director, NUGEVITY

Tuesday, September 10, 2019

12:00 p.m. – 1:00 p.m.

Spaceflight – especially long-duration and deep space travel – can expose crewmembers to a multitude of physiological challenges.

Given the complexity of oxidative stressors present in space, and the number of biological processes that could be compromised as a result, it is unlikely that a single agent or a single countermeasure will effectively solve all the healthcare challenges facing crewmembers. For example, while both are sources of acute radiation exposure, solar particle events (SPE) impact humans in different ways compared to galactic cosmic rays (GCR). Microgravity, circadian disturbances, noise pollution, and many other factors further compound these concerns.

An interdisciplinary team has for the past two decades focused on researching a variety of tools and technologies to characterize, understand, and monitor some of these concerns. From nutrition, to physical activity, to cognitive resiliency, to chemoprevention and therapeutics, this discussion will touch on innovative solutions derived from prior and current research that may enable humankind to safely expand our presence beyond low Earth orbit.

Emphasis will be placed on how these technologies could impact or disrupt current standards of care, nutrition, or manufacture on Earth; or conversely, how Earth-bound technologies have impacted space medicine.



Northern Ontario
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NOSM at Lakehead University – ATAC 6030

NOSM at Laurentian University – MSE 107

Lunch will be provided.