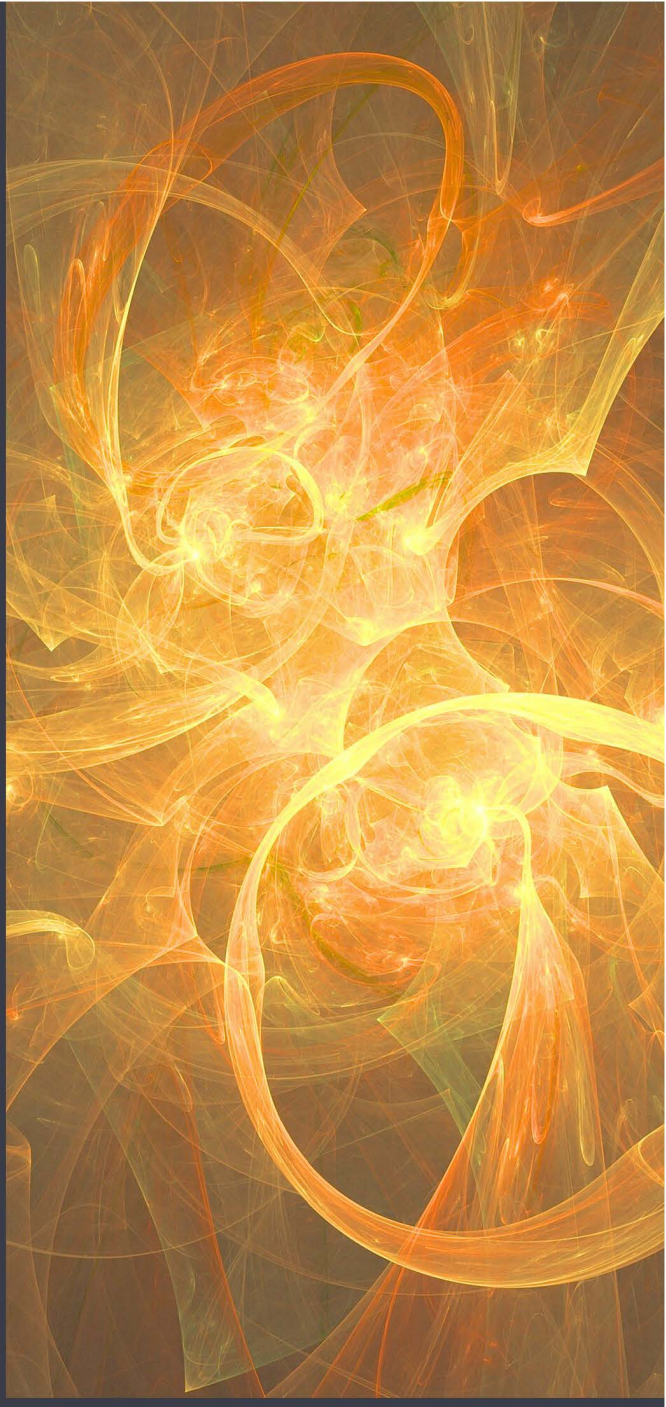
Center for Research and Training in the Sciences (UTSA),
Institute for Integration of Medicine & Science (UTHSA),
Translational Science Graduate Program, &
UTSA-UTHSA Joint Graduate Program in Biomedical Engineering
invite you to attend

STRECH

Seminars in Translational Research

Presents

Immune resilience: Why some people get sick less often and live longer



Why are some people healthier than others throughout life? We hypothesized this advantage is attributable in part to optimal immune resilience (IR), defined as the capacity to preserve and/or rapidly restore immune functions that promote disease resistance (immunocompetence) and control inflammation in infectious diseases as well as other causes of inflammatory stress. We gauged IR levels with two distinct peripheral blood metrics that quantify the balance between (i) CD8+ and CD4+ T-cell levels and (ii) gene expression signatures tracking longevity-associated immunocompetence and mortality-associated inflammation. Profiles of IR metrics in ~48,500 individuals collectively indicate that some persons resist degradation of IR both during aging and when challenged with varied inflammatory stressors. With this resistance, preservation of optimal IR tracked (i) a lower risk of HIV acquisition, AIDS, symptomatic influenza, and recurrent skin cancer, (ii) survival during COVID-19 and sepsis; and (iii) longevity. IR degradation is potentially reversible by decreasing inflammatory stress. Over all, I will show that optimal IR is a trait observed across the age spectrum, more common in females, and aligned with a specific immunocompetence-inflammation balance linked to favorable immunity-dependent health outcomes, including cancer. IR metrics and mechanisms have utility both as biomarkers for measuring immune health and for improving health and cancer outcomes.

Sunil Ahuja, MD

Professor of Medicine, University of Texas Health Science Center San Antonio
Director, Veterans Administration Center for Personalized Medicine,
San Antonio VA Hospital

Friday, October 18, 2024
Virtually from 9:00 AM - 10:00 AM

For information on participating in the current monthly seminar. Please head to https://klesse.utsa.edu/bmce/strech/ or scan the QR code below.

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UT Health San Antonio
Institute for Integration of Medicine & Science

UTSA Center for Research & Training in the Sciences