

The Biological and Biomedical Joint Seminar Series

(Hosted by the departments of Molecular & Cellular Biology, Chemistry & Biochemistry, Cellular & Molecular Medicine, and Plant Sciences)

“Beyond the plate: what studying cell communication in 3D teaches us about immunology and research”

Alon Oyler-Yaniv

Lecturer

Systems Biology

Harvard Medical School

Tuesday February 21st, 2023

ENR2 Room S107 @ 11AM

Hosted By: Andrew Paek (MCB)



The use of standard cell culture assays has been phenomenally useful in helping us understand cell-to-cell signaling in the immune system. However, these models contain hidden assumptions that may or may not be valid when extrapolating to real tissue. We show that within a 3D environment, cytokine signaling is often localized to small active niches. This source of cell-to-cell variability, and its consequences for the immune response, is largely ignored. We will discuss how this new realization: 1. Changed our understanding of the role of Interleukin-2 in the immune system; and 2. Clarified our thinking on the action of infiltrating lymphocytes in solid tumors.

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