



## Extracellular vesicles in cancer: functional roles and clinical applications

Speaker: Dr. Fabrice Lucien-Matteoni, Ph.D., Mayo Clinic

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(Light lunch will be served at 11:40 am)



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### ABSTRACT:

Considerable evidence now suggests that tumor-derived extracellular vesicles (EVs) represent both the heterogeneity and clonal evolution of the underlying cancer cells. Budding from the tumor cell surface or released by exocytosis, EVs carry surface antigens and genetic material from donor cells. By these features, EVs serve as vehicles of intercellular communication and influence physiological and pathological processes. As tumor-derived EVs circulate in biofluids such as blood and urine, they have emerged as promising non-invasive biomarkers for cancer diagnosis, prediction and monitoring of therapeutic response. In his presentation, Dr. Lucien-Matteoni will describe the roles of tumor-derived EVs in immune-evasion and resistance to radiotherapy and immunotherapy. Furthermore, he will present recent technological advances in EV analysis and clinical utility of tumor-derived EVs as liquid biomarkers for prostate cancer.

**BRIEF BIOGRAPHY:** Dr. Fabrice Lucien-Matteoni, Ph.D., is an Assistant Professor of Urology and Immunology at Mayo Clinic in Rochester, Minnesota. He earned his Ph.D. in Immunology from the University of Sherbrooke in Canada, then he completed a postdoctoral fellowship at Western University in Canada under the guidance of Dr. Hon Leong, where he initiated research on the role of extracellular vesicles in tumor progression and their potential as liquid biomarkers for urologic malignancies. In 2017, he joined Mayo Clinic for a fellowship under the mentorship of Dr. Haidong Dong, a renowned tumor immunologist known for his discovery of the immune checkpoint molecule PD-L1. Dr. Lucien-Matteoni focuses on elucidating the systemic roles of extracellular vesicles in immunosuppression and resistance to immunotherapy, particularly in the context of urologic cancers. He has secured funding from various foundations, NCI and the Department of Defense and has made significant contributions to the field of extracellular vesicle research through extensive publications. Additionally, Dr. Lucien-Matteoni serves as the chair of the blood task force at the International Society for Extracellular Vesicles, where he works to establish guidelines for rigor and reproducibility in extracellular vesicle research.



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