

15 Oct
2026
Thursday

LECTURE

11.00 - 12.00

MEET & EATLight lunch provided
12.00 - 13.30

Blood Immune Profiles as Prognostic and Predictive Biomarkers in Glioma: Pseudoprogression, Immunotherapy Response, and Clinical Translation

**ABSTRACT**

Glioblastoma (GBM) remains the most lethal primary brain tumor. Two of the most consequential and unresolved challenges in its clinical management are distinguishing pseudoprogression from true tumor regrowth after chemoradiation, and identifying which patients are likely to benefit from immunotherapy. Both questions are currently answered late—if at all—through imaging, re-biopsy, or tissue-based molecular assays.

This lecture presents emerging evidence from the UCSF Immunomethylomics in Primary brain tumor Subjects (IPS) study that peripheral blood immune profiling—derived non-invasively from DNA methylation of peripheral blood cells—can address both challenges. Using a deconvolution approach that quantifies 12 immune cell populations from a single blood draw, we show that a patient's pre-treatment immune state predicts not only the type of radiographic event they will experience (pseudoprogression vs. true progression), but also their likelihood of benefiting from anti-PD-L1 immunotherapy.

In the pseudoprogression setting, the blood immune signature captures an adaptive/cytotoxic immune axis that differentiates patients who will pseudoprogress from those who will experience early true progression—a determination that is otherwise unavailable without tissue. In the immunotherapy setting, blood-based immune ratios stratify patients into groups with markedly different survival outcomes under atezolizumab, and appear specific to the immunotherapy context rather than merely prognostic. Importantly, this non-invasive blood predictor performs comparably or better than published tumor tissue-based biomarkers, using variables obtainable before surgery.

Together, these findings support peripheral blood immune profiling as a practical, clinically actionable platform for precision neuro-oncology—one that could inform treatment decisions at the time of diagnosis and at first radiographic change, without requiring repeat biopsy.

SPEAKER**Prof. Annette Molinaro**

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**HOST:**

Cancer Epidemiology and Prevention (EPICAN) Group
Department of Precision Health (DoPH)
Luxembourg Institute of Health (LIH)

RESPONSIBLE SCIENTIST:

Aurélie Poli
Senior Scientist
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***Please note that in-person attendance is subject to limited availability and requires prior registration. To secure your spot, kindly send an email to epican@lih.lu**

Locations:**Lecture:**

1 A-B rue Thomas Edison, 1445 Strassen
Salle Marie S. Curie & Salle Louis Pasteur

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