



SÉMINAIRE



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**Invitée par
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MULTIFUNCTIONAL STIMULI- RESPONSIVE NANOTHERAPEUTICS PLATFORMS FOR CANCER AND INFECTIOUS DISEASES

Multifunctional nanotherapeutic platforms are emerging as promising treatment modalities for cancer and infectious diseases. Photodynamic therapy (PDT) is one such approach that, upon light irradiation, excites a photosensitizer which transfers energy to molecular oxygen, generating reactive oxygen species (ROS). The resulting ROS surge induces cancer cell death in a minimally invasive manner. However, clinical translation of PDT faces major challenges, particularly due to photosensitizer aggregation, their dark toxicity, and the presence of a hypoxic tumor core limiting ROS production. Our research is focused on overcoming tumor hypoxia during the delivery of photosensitizers to enhance the effectiveness of PDT. Moreover, Photothermal-photodynamic nanoplatforms, specifically targeted to tumors with biomimetic approaches, were envisioned to ablate tumors effectively. In my talk, I will present our recent advancements in oxygen-evolving dual photothermal-photodynamic therapies, tumor-targeting by biomimetic approach, highlighting the use of amphiphilic polymeric systems, graphene oxide, and manganese oxide-based nanoscaffolds. Additionally, I will briefly showcase our current work on multifunctional nanozyme systems aimed at treating infectious diseases, particularly in the context of wound healing.

**Mardi 16 septembre 2025 à 11h00
CBM - Salle Luciole
Rue Charles Sadron - 45000 Orléans**