Conférence
CRCHUS 2.0

**14 novembre 2024**
12 h à 13 h

# Modern al(radio)chemistry to diagnose and treat cancer

## Conférence en anglais

## Valery Radchenko, PhD

Valery Radchenko est chercheur au Centre canadien d'accélération des particules (TRIUMF) et professeur auxiliaire au département de chimie de l'Université de Colombie-Britannique.

Ses recherches portent principalement sur la production et l'application de radionucléides thérapeutiques pour la thérapie radionucléide ciblée (TRT).

**Local X9-2999 au CRCHUS ou en ligne**

The use of radionuclides has become common in the diagnosis and therapy of cancer. Targeted radionuclide diagnostics and therapy based on the combination of appropriate radionuclides with selective delivery systems (e.g. antibodies, peptides etc.) maximizes the precision of the imaging as well as minimizes the damage of healthy tissues during therapy. The application and objective will define the appropriate therapeutic radionuclides, emitting alpha, beta- particles or auger electrons, as well as the appropriate bifunctional chelator systems to effectively attach these radionuclides (e.g. radiometals) to biomolecules.

TRIUMF provides a unique infrastructure for the production of medical radionuclides with protons for imaging and therapy, including well-established imaging radionuclides e.g. $^{18}$F and $^{11}$C, as well as several imaging radiometals including $^{68}$Ga,$^{44}$Sc, $^{86}$Y and $^{89}$Zr and therapeutic radionuclides such as $^{119}$Sb, $^{197m+g}$Hg, $^{103}$Pd. Besides, the TR-13 Life Sciences Division utilized other TRIUMF facilities, including ISAC (production of $^{209/211}$At, $^{225}$Ra/$^{225}$Ac, $^{226}$Ac, $^{149/155}$Tb, $^{165}$Er), Isotopes Production Facility (IPF) for spallation reaction on thorium target for production of emerging therapeutic radionuclides (e.g. $^{225}$Ac). The status of utilization of these facilities will be presented as well as potential future production capabilities, including ARIEL proton and electron beamlines and IAMI will be discussed.

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Québec

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**Un buffet froid sera offert pour les participants sur place.**

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