Medical Physics Seminar

Monday, December 10th 2018

1345 HSLC ~ 4:00 P.M.

Dr. Vesna Sossi
Adjunct Professor / Professor
Physics and Astronomy, Medicine
University of British Columbia
Vancouver, BC, Canada

Insights into Parkinson's Disease Provided by Novel Analysis Approaches to Brain PET Data

Multi-modality, multi-tracer imaging is revealing the impact of neurodegeneration, and Parkinson's disease (PD) in particular, on several neurotransmitter systems and functional connectivity. At the same time there is an increasing awareness of the network type behavior of the brain and of the importance of the interactions between localized neurochemical alterations and longer-range functional effects. These concepts highlight the importance of novel analysis approaches to the PET data which focus on identifying specific disease related spatial patterns either on a single or multiple tracer level. This talk will present some novel insights into PD progression obtained by applying principal component analysis (PCA)-based approaches to PET data related to several neurotransmitter systems. In particular, outcomes of these studies highlight that disease affects even neurotransmitter activity in a well-defined spatial pattern and that PCA analysis methods may be able to identify different mechanisms associated to disease onset and disease progression.

1345 Health Sciences Learning Center (HSLC) 4:00 - 5:00 P.M.