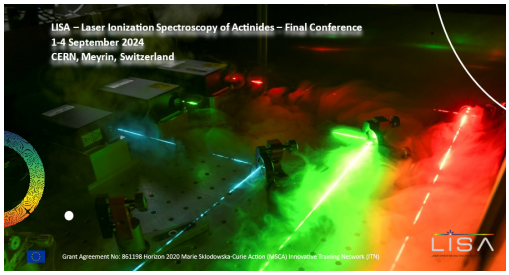

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Little-known ways to apply nuclear physics to chemistry and medicine

Monday 2 September 2024 13:30 (45 minutes)

As humans, we are a mélange of diverse chemical elements: a fragile composition of oxygen, carbon, hydrogen, nitrogen, calcium, and others that hang in an improbable but finely tuned balance. Once this balance is disturbed, either due to a deficiency or excess of certain elements, it can lead to pathologies that have been linked to a variety of severe diseases such as cancer, Alzheimer's Disease, or Parkinson's Disease.

What if we could use our growing knowledge of different chemical elements, and the technologies applied in nuclear physics, to better understand how our bodies function, and why we get sick? How could we apply that knowledge to solve problems in our bodies?

Join me for my talk to learn about TRIUMF's role in producing, studying, and applying isotopes of various chemical elements to understand the exact role of different metal ions in health and in disease. Delve into the little-known medical applications of nuclear physics techniques, such as beta-radiation detected nuclear magnetic resonance, and discover how an interdisciplinary approach can help us trace the origins of different diseases, as well as a synergistic endeavour to design and develop more efficient (radio)pharmaceuticals.

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