Canadian Association of Physicists
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Contribution ID: **1965** Type: **Invited Speaker / Conférencier(ère) invité(e)**

Seeing is Believing: New Imaging Physics to Transform Asthma Patient outcomes (I)

Wednesday 13 June 2018 12:00 (30 minutes)

My laboratory is focused on developing a deep understanding of chronic lung disease using novel imaging methods, in patient-based research. The overarching goal of my team's research is to discover, validate and clinically translate magnetic resonance imaging (MRI) biomarkers while generating the evidence to support the clinical use of lung MRI to change asthma and COPD patient outcomes.
I completed my BSc and MSc at Western University and a PhD at the University of Washington in Seattle, Washington. Upon completing post-doctoral studies (funded by MRC Canada) at the University of Basel, (Switzerland), I joined F. Hoffman La Roche AG as a Scientist in Pharmaceutical Research and Development (Switzerland). In September 2004, I returned to academic research at Robarts Research Institute and Western University.
In this invited lecture I will provide an overview of the past 20 years of hyperpolarized noble gas developments including MRI and polarizer physics innovations. I will discuss these in the context of the burden of chronic lung disease and how these physics tools are being used in medical imaging applications in patients. I will review the most recent findings using 129Xe MRI in patients with lung disease and the tricks and tools needed for clinical translation.
My lab's work has been extensively published with more than 80 peer-reviewed papers in the last 5 years in the highest impact medical physics, imaging and respiratory/physiology journals; 15 contributions were highlighted in Editorials, Journal Covers or Editoral podcasts because of their significance and impact. My lab is currently funded by the Heart and Stroke Foundation (Canada), Canadian Institutes of Health Research as well as the Natural Science and Engineering Research Council (Canada) Discovery, Research Tools and Accelerator awards.

Author: Prof. PARRAGA, Grace (Western University)

Presenter: Prof. PARRAGA, Grace (Western University)

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