Steven Beyea, PhD.
Professor of Diagnostic Radiology, Physics, Biomedical Engineering & Health Sciences at Dalhousie University
Scientific Lead, Biomedical Translational Imaging Centre, IWK & QEII Health Centres

As the scientific director of the Biomedical Translational Imaging Centre (BIOTIC), Dr. Beyea leads a group of approximately 18 personnel, including 7 PhD scientists as well as technical, business, and project management staff. Strategically located in Atlantic Canada's largest adult and paediatric hospitals, our infrastructure ranges from clinical 3T MRI and MEG/EEG, to pre-clinical PET/MRI and PET/SPECT/CT. With an explicit mandate from the IWK and QEII Health centres to accelerate the clinical and commercial translation of medical technologies, he currently has active industry research partnerships ranging from multinationals like GE Healthcare to multiple Canadian SMEs in the diagnostic medical devices space. Since the lab's founding in 2013, his research program has attracted >$5M in operational research grants and >$1.75M in private direct investment from industry (not including in-kind contributions). Dr. Beyea's own research focuses on the development and validation of novel medical imaging technologies for data acquisition and analysis, with a focus on data-driven techniques for improved diagnostic performance.

Representative Journal/Conference Publications:

[1] T. Bardouille, L. Power, M. Lalancette, R. Bishop, S. Beyea, M. Taylor, B. Dunkley "Variability and Bias between Magnetoencephalography Systems in Non-Invasive Localization of the Primary Somatosensory Cortex" Clinical Neurology & Neurosurgery, in press (2018).

[2] J.A. Rioux, N. Murtha, C.V. Bowen, S.E. Clarke, S.D. Beyea "Reconstruction of Accelerated DCE-MRI Guided by Image Quality Metrics" Proceedings of the Joint Annual Meeting of the International Society for Magnetic Resonance in Medicine and the European Society for Magnetic Resonance in Medicine & Biology, Paris, France (2018).

[3] D.P. McAllindon, C. Bowen, C. O'Grady, S. Beyea "An investigation of unbiased measures for automated thresholding and data quality estimation for pre-surgical fMRI" Proceedings of the Joint Annual Meeting of the International Society for Magnetic Resonance in Medicine and the European Society for Magnetic Resonance in Medicine & Biology, Paris, France (2018).

[4] M.A. Quraan, L. Petley, D. Chiasson, P. Froese, S. Patterson, A. Newman, T. Omisade, T. Bardouille, S.D. Beyea "Functional Connectivity in patients with mild traumatic brain injury compared to healthy controls using MEG", Proceedings of the 21st International Conference on Biomagnetism, Philadelphia, US (2018).

[5] L. Petley, T. Bardouille, D. Chaisson, P. Eroese, S. Patterson, A. Newman, A. Omisade, and S. Beyea "Attentional Dysfunction and Recovery in Concussion: Effects on the P300m and Contingent Magnetic Variation" *Brain Injury*, **32**(4), 464-473 (2017).

[6] M.T. Stevens, T, Bardouille, G. Stroink, S. Boe, & S.D. Beyea "Fully Automated Quality Assurance and Localization of Volumetric MEG for Pre-Surgical Mapping" *J. Neurosci. Methods*, **266**, 21-31(2016).