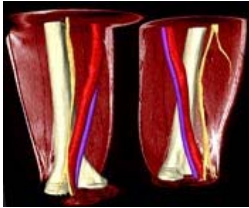
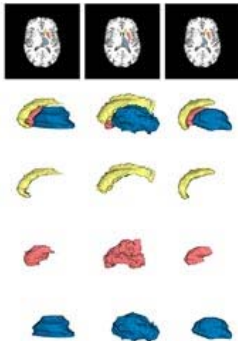


Medical Image Computing and Analysis (MICA)

Is composed of the *Medical Computing Lab (MCL)* and the *Medical Image Analysis Lab (MIAL)*



Anatomical and functional medical imaging modalities allow clinicians and scientists to peer inside the human body and provide a wealth of information. This information is indispensable for understanding, modeling, diagnosis and treatment of diseases. The number of medical images acquired on a daily basis has grown, finer details are captured with larger image sizes, and the dimensionality of images has increased from two dimensional scalar images to dynamic 3D multi-valued fields. This results in image data that cannot be effectively and accurately processed with traditional visual inspection techniques. The development of computational tools for medical image analysis therefore has tremendous value and is the focus of research at MICA.



Our research goals are motivated by different clinical applications related to neurological, musculoskeletal, cardiac diseases and oncological studies, including multiple sclerosis, Parkinson's, shoulder maladies, tumor localization etc. The overarching theme of our research is the design of computational algorithms for extracting clinically relevant information from medical images with varying dimensionality and complexity.

We work with and are funded by local, national, and international clinical collaborators, who provide motivation, image data, and feedback. For e.g., TRIUMF, BC Cancer Agency, Lion's Gate Hospital, University of British Columbia, Hospital for Joint Diseases/New York University Medical Center, Vancouver General Hospital, Pacific Parkinson's Research Centre.