APPENDIX XIV.

RESEARCH INTERESTS OF THE ACADEMIC MEMBERS OF THE MPU

COLLINS, Louis	*Image processing, registration, segmentation, MRI, image guided neurosurgery, multiple sclerosis, Alzheimer's disease, Parkinson's disease, epilepsy*.
DAVIS, Stephen	*Accurate radiation dosimetry applied to calibration of radiation measurement devices. Commissioning of a Monte Carlo treatment planning system*.
DEBLOIS, François	*Photon and electron beam dosimetry, stereotactic radiosurgery, Monte Carlo treatment planning and medical physics software.*
DEVIC, Slobodan	*Radiochromic film dosimetry; biological target volumes for radiotherapy treatment planning*.
EL NAQA, Issam	*Oncology bioinformatics, computational and systems biology, multimodality imaging, adaptive radiotherapy*.
EVANS, Michael D.C.	*Clinical aspects of radiotherapy, including low and high dose rate brachytherapy, dynamic external beam radiotherapy, linear accelerator calibration and quality assurance, computerized treatment planning, radiation safety.*
FARIVAR-MOHSEN, Reza	*Functional imaging; histological analysis; image analysis; MRI; molecular biology; non-human primate; statistical analysis; vision; psychophysics*.
GAUVIN, Alain	*Interest in imaging informatics revolves mostly around two topics: regional imaging integration, and multi-system integration of medical imaging within the hospital IT ecosystem*.
HEGYI, Gyorgy	*Image analysis and manipulation, patient radiation dose determination in radiology with special dosimetry techniques, health physics. Different diagnostic imaging procedures can result in significant radiation dose to the patient. The radiation dose to pediatric patients during CT procedures is of special concern. Special dosimmetry tools are required for routine CT dose measurements like radiochromic films, MOSFETs others*.
HOBSON, Maritza	*Development of "in vivo" transit dosimetry procedures for EPIDs; characterization of portal imagers; development of routine QA procedures for quality on OBIs; CT Sim using ACR CT phantom*.
JANICKI, Christian	*Acts & Regulations for nuclear substances and devices; radiation exposure from medical sources and environment; Linear-No-Threshold (LNT) and cancer risk models; health risks from nuclear accidents (e.g. Fukushima); transport of nuclear substances and waste disposal in the environment; security of nuclear sources and devices in hospitals.*

KILDEA, John	*Electronic QA; database tools, neutron spectra*.
LEGÉR, Pierre	*Distance and position sensing, dose detection, dose delivery, x-ray control, general application of electronic to geophysics and radiotherapy*.
LEHNERT, Shirley M.	*Radiobiology, tumor biology, drug delivery, functional imaging.*
LEVESQUE, Ives	*Quantitative MRI techniques, signal modeling, pulse sequence development, (Siemens, GE), image analysis, applications to multiple sclerosis*.
LIANG, Li Heng	*Ortho-voltage treatment machine, film dosimetry*.
MONAJEMI, Thalat	*Dose calculate for permanent prostate implants incorporating edema*.
PARKER, William	*Pediatric radiotherapy, quality assurance and dosimetric measurements of IMRT beams*.
PATROCINIO, Horacio J.	*Stereotactic radiosurgery, image-guided stereotactic body radiation therapy, motion and margin assessment in radiotherapy, image-guided brachytherapy*.
PIKE, G. Bruce	*Medical imaging, magnetic resonance imaging, functional brain imaging, brain physiology, image guided neurosurgery*.
PODGORSAK, Ervin B.	*Photon and electron beam dosimetry, stereotactic radiosurgery, general applications of physics to radiotherapy*.
POON, Emily	*Monte Carlo dose calculations; adaptive radiotherapy; treatment planning software development; brachytherapy dosimetry; deformable image registration*.
POPOVIC, Marija	*Treatment of head & neck Ewing's sarcoma in pediatric & young adult patients; treatment plan comparison for larynx, oro- and hypopharynx carcinomas: RapidArc vs sliding-window IMRT techniques*.
READER, Andrew	*Image reconstruction, 4D Positron Emission Tomography (PET)*.
RICHARDSON, Richard B.	*Radiation, p53, stem cells, cancer, aging*.
RUO, Russell	*Intensity modulated radiotherapy (IMRT), image guided radiotherapy (IMGT), stereotactic radiosurgery (SRS)*.
SARFEHNIA, Arman	*Water calorimetry, particle therapy dosimetry, detector design and optimization, beam quality, absolute dosimetry*.
SERBAN, Monica	*Commissioning and validation of Eclipse electron Monte Carlo treatment planning system*.
SEUNTJENS, Jan	*Radiation dosimetry; Monte Carlo simulation, radiation detectors, device development, radiation biophysics and clinical applications*.
SOISSON, Emilie	*Stereotactic, tomotherapy, Monte Carlo, image guidance (IGRT).*
STROIAN, Gabriela	*Deformable registration, heterogeneity corrections, Monte simulations, image guided radiotherapy, radiobiological modeling in brachytherapy*.

SYME, Alasdair	*Virtual Isocentre RapidArc (VIRA), novel radiation detectors, plastic scintillation detectors*.
THEBAUT, Jonathan	*Monte Carlo, orthovoltage/superficial, IMRT/VMAT*.
TOMIC, Nada	*Image guided radiation therapy; radiochromic film dosimetry*.
WIERZBICKI, Wieslaw	*TBI, dosimetry of small radiation fields, "in vivo" dosimetry*.