

24th CARO Annual Scientific Meeting

Research, Discovery, Collaboration and Education in Radiation Oncology and Physics

Wednesday, September 22 - Saturday, September 25 | Hyatt Regency, Vancouver, BC

CARO2010

2010 CARO ASM CARO-ESTRO Joint Symposium

Dr. Jean-Philippe Pignol



Jean-Philippe PIGNOL is an MD Radiation Oncologist with a PhD in Nuclear Physics. He is a Full Professor at the University of Toronto, in the Departments of Radiation Oncology, Medical Biophysics and at the Institute of Medical Sciences. He is a Clinician Scientist at the Sunnybrook Health Sciences Centre with 80% of his time dedicated to research and a clinical activity focused exclusively on breast cancer.

His research focuses on the reduction of treatment side effects and the improvement of efficiency for breast cancer. The research starts in the Physics Lab and is carried on to clinical trials:

For early stage breast cancer, a randomised control study comparing Breast IMRT to standard radiotherapy has been published in 2008 demonstrating a reduction in skin burns. Also a world first treatment of breast brachytherapy using permanent implantation of radioactive palladium seed was pioneered in 2004 and published in 2009.

The physics research aims at the creation of more efficient radiation treatments. This includes the combined use of nanotechnologies and targeted therapies to create novel molecule that could enhance selectively the effect of radiation on cancer cells. Our team has successfully engineered a new drug associating Herceptin to target breast cancer cell, bound to gold nanoparticles to create a highly toxic shower of electron at the microscopic scale. This molecule was found to be much more efficient against aggressive breast cancers.