

VANCOUVER ISLAND CENTRE

BC CANCER AGENCY

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Our Research Focus:

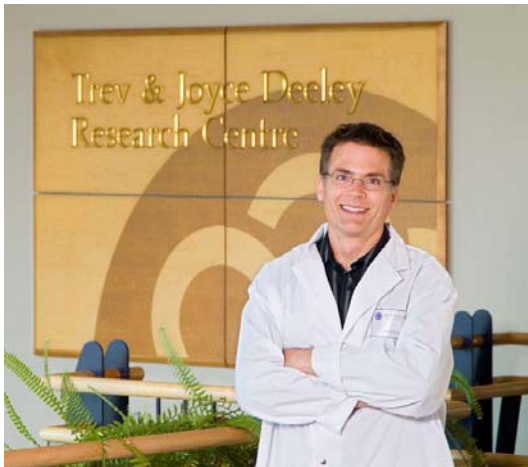
The Vancouver Island Centre (VIC) is one of the four full service Cancer Centres of the British Columbia Cancer Agency. The VIC provides supportive care, radiotherapy and chemotherapy to people who live on Vancouver Island and the Gulf Islands. These services are accessed by 3000 new patients per year. The VIC also has an active clinical research community, involving more than 60% of staff.

In 2005, the VIC identified 5 key research themes, through a process of stakeholder consultations. These themes reflect the interests and competitive strengths of the VIC and include:

1. Immune Response to Cancer (Dr. Brad Nelson and Dr. Xiaobo Duan leaders),
2. Improving Care Through Technical Innovation (Dr. Wayne Beckham and Dr. Ivo Olivotto, leaders),
3. Population Outcomes (Dr. Pauline Truong and Dr. Elaine Wai, leaders),
4. Palliative Care and Communication (Dr. Grant MacLean and Ann Syme, leaders),
5. Telehealth Initiative (Johanna den Duyf and Dr. Brian Weinerman, leaders).

In April 2006, the Radiation Therapy Business Unit for Clinical Trials was created. This unit, headed by Dr. Pauline Truong and Dr. Wayne Beckham manages Clinical Trials in Radiation Therapy. One such project is a pan-Canadian randomized clinical trial comparing partial breast Radiation Therapy delivered in just 1 week to conventional whole breast RT delivered daily over 4 to 6 weeks after lumpectomy for early-stage breast cancer. This trial, co-led by Dr. Wayne Beckham and Dr. Ivo Olivotto is supported with >\$6Million from the CBCRA and CIHR. In 2006, VIC had the highest accrual to this study of any centre in Canada.

In 2006 Dr. Nicol Macpherson and Johanna Den Duyf were named leaders of the Systemic Clinical Trials Unit. The staff of this unit manages Clinical Trials in Medical Oncology for patients with breast, gastrointestinal, genitourinary, CNS, and lung cancers as well as lymphoma and melanoma.



The Vancouver Island Research Advisory and Development Committee at VIC launched its Catalyst Grants competition supported by \$50,000 from the BC Cancer Foundation-Vancouver Island. In 2005, seven awards totaling \$36,695 were given to principal investigators from Medical and Radiation Oncology, Medical Physics, BC Cancer Foundation, Radiation Therapy, and Nutrition.

VIC is home to the **Trev and Joyce Deeley Research Centre (DRC)**, a 10,000 square foot laboratory that supports translational research programs in tissue acquisition and molecular pathology, and in the

technology and identification of biomarkers that may be predict the development of cancer. Researchers at the DRC study how the immune system responds to cancer and how best to enhance this response for preventive and therapeutic purposes. The DRC is also the home of the Tumour Tissue Repository.

The Tumour Tissue Repository (TTR) captures and collects molecular data from a growing collection of different cancerous tissues. To build a complete history of the tissue, patient-orientated data such as clinical details of the disease, treatment regimens and disease outcomes will need to be added.

The Tumour Tissue Repository is comprised of two complementary parts, a Processing and Storage Laboratory (TPSL) and a Bioinformatics Clinical Research Database (BCRDB). A BCRDB functional prototype has been established in collaboration with IBM. The TPSL is the laboratory where cancerous tissue samples are collected and analyzed to ensure that they are of research value and stored. DNA, RNA and protein studies will be performed on the samples and data results from these analyses are re-populated into the BCRDB. The database is also designed to capture and securely store patient clinical data and outcomes. The availability of tissue, comprehensiveness of data and availability of new emerging bioinformatics technologies, will represent a research tool to support and direct new research initiatives as well as allow the exploration of data-interactions previously not possible. The final outcome will be an individualized patient therapy. For more information please visit our website at www.bccancer.bc.ca/RES/TTR/

Key Research Staff

<i>Researcher name</i>		<i>Position & Cross-Appointments</i>
Ivo Olivotto	MD	Chief Physician, VIC Head, Radiation Oncology Professor, Surgery, UBC
Jeff Barnett	MSc, FCSHP	Pharmacy Information Analyst
Paul Blood	MD, PhD Epidemiology	Radiation Oncologist Clinical Assistant Professor, Surgery, UBC
Xiaobo Duan	PhD Virology	Research Project Leader
Brad Nelson	PhD Immunology	Director, Trev & Joyce Deeley Research Centre, VIC Adjunct Assoc Professor, Biology & Biochemistry, UVic
Howard Pai	MD	Radiation Oncologist
C Ann Syme	MSc Nursing	Provincial Leader, Pain and Symptom Management/ Palliative Care Adjunct Clinical Professor, Palliative Care, UBC Adjunct Associate Professor, Nursing, UVic
Elaine Wai	MD, MSc Clinical Epidemiology	Radiation Oncologist Clinical Assistant Professor, Radiation Oncology, UBC
Peter Watson	MD, PhD	Director, Tumour Tissue Repository Clinical Assistant Professor, Surgery, UBC
Brian Weinerman	MD	Regional Vice President, BCCA, VIC Honorary Clinical Professor, Medical Oncology, UBC
Wayne Beckham	PhD Med. Biophysics	Provincial Leader, Medical Physics

J den Duyf	BScN, MA	Director, Systemic Therapy
Grant MacLean	MD	Medical Oncologist
Pauline Troung	MD	Radiation Oncologist

Training

A.) Course Instruction

A Alexander	UBC	Island Medical Program – Clinical Skills (2006/7)
A Alexander	UBC	Island Medical Program – Surgical Skills Examiner (2006)
I Olivotto	UBC	Island Medical program – Clinical Skills (2006/7)
I Gagne	UVic 540	Medical Imaging Physics (2006)
W Ansbacher	UVic 432	Introduction to Medical Physics (2005, 2006)
W Ansbacher	UVic 540	Medical Imaging Physics (2006)
W Ansbacher	UBC 539	Radiation Dosimetry (2006)
Z Zavgorodni & W Beckham	UVic 534	Radiotherapy Physics I

B.) Summary of Trainees

	<i>Total No. of Current Students</i>	<i>Post-doctoral</i>	<i>Post-graduate</i>	<i>Undergraduate</i>	<i>Clinical Research Fellows</i>
2006	13	3	4	6	1

C.) Current Students – Degrees Completed

<i>Name</i>	<i>Supervisor</i>	<i>Date Completed</i>
MSc		
Cheri Cosby	N Sherwood	2006
Clinical Research Fellows		
Miquel Panades		2004-2005
Elaine Wong		2004-2006
François Germain		2006-2007

D.) Trainee Awards

<i>Name</i>	<i>Supervisor</i>	<i>Award Received</i>
Nancy Coady	n/a	Shane Fellowship Award for continuing education (2005-2006)
Helene Gaffney		Best Scientific Abstract (Radiation Therapist), Canadian Association of Radiation Oncology Conference, Victoria, September (2005)
ED Greanya, SCM Taylor, F Hu, J Barnett and B Thiessen	S. Taylor	Journal of Oncology Pharmacy Practice (JOPP) awards for best papers: "Temozolomide for malignant gliomas in British Columbia: A population-based cost-effectiveness analysis" (2006)
Elaine Wong	I Olivotto	CBCF Clinical Research Fellowship (2004 – 2005)

Selected Current Contributions

Name	Membership/Committee Involvement
J Barnett	Chair, Canadian Society of Hospital Pharmacists, Informatics Practice Specialty Network
	Chair, Canadian Society of Hospital Pharmacists Board of Fellows
P Blood	Member, BCCA Ethics Review Board
T Leduc	Contributing writer, BCCA Cancer Drug Manual
I Olivotto	Chair, Workshop for Validation of Novel Biomarkers in Breast Cancer, CBCRA
	Member, Research Advisory Committee, Canadian Breast Cancer Research Partnership
H Pai	Vice President, Capital Informatics Society
	Member, Health Research Initiative Advisory Committee, UVIC
S Pellatt	Head and Neck PPO Review Team
	CNS Tumour Group Pharmacist
	Head & Neck Tumour Group Pharmacist
	Member, Editorial Board, BCCA Cancer Drug Manual
CA Syme	President, BC Hospice Palliative Care Association (2003-2006)
	Member, Canadian Hospice Palliative Care Association Standards Committee
S Walisser	Co-Chair, National Cancer Institute of Canada Pharmacists Network
	Canadian Association of Pharmacy in Oncology Executive Member – NCIC Pharmacists
	Past-President, Canadian Association of Medical Oncologists

Current Research Projects³

1. A comprehensive testing strategy for the integration of novel biomarkers into early breast cancer care	
PI: K Gelmon Co-PIs: I Olivotto, et al. CIHR-CBCRI	For a description of this project see Advanced Therapeutics
2. A pilot study to determine the accessibility and reliability of data on patients treated with DCIS in British Columbia	
PI: E Wai Co-I: M MacKinnon, M Hayes, I Olivotto CBCRA \$25,000 (2004-2006)	The goal is to determine what information is available electronically and on paper about the initial management, follow-up and outcome of all women with ductal carcinoma in situ (DCIS) in BC.
3. A pilot study to evaluate the feasibility of self-directed aerobic exercise and its effect on fatigue in prostate cancer patients undergoing radical external beam radiotherapy	
PI: P Truong ACURA \$20,027 (2005 - 2006)	Our goal is to evaluate (1) the tolerability and adherence to a self-directed, moderate-intensity aerobic exercise program during radical external beam radiotherapy (EBRT) for prostate cancer; (2) the effect of aerobic exercise on fatigue during and after EBRT; and (3) the effect of aerobic exercise on quality of life, physical fitness, hematologic and biochemical parameters.

³ Key to abbreviations: PI = Principal Investigator, Co-I = Co-investigator; CIHR* = Funding Institution; \$150,000 (2005-2007) = Total Project Funding for Given Years (*see pages 16-17 for a list of acronyms)

4. A randomized trial of short vs. long acting LHRH agonist preparation prior to transperineal implantation of the prostate	
<p>PI: E Berthelet ACURA \$18,500 (2003-2007)</p>	<p>The objective of this study is to assess the median time to testosterone recovery in patients receiving long acting or short acting LHRH hormone preparations and TPIP as radical treatment for limited stage prostate cancer. The suppression of testosterone to castrate levels has a definite advantage in terms of prostate volume downsizing, disease control and ease of Brachytherapy, in this patient population.</p>
5. Canadian Tumour Repository Network CTRNet	
<p>PI: P Watson CIHR \$1,165,000 (2004-2009)</p>	<p>This is a program grant to develop a national framework for tumour banks in Canada including common standards, application process, website, central database to interface with and catalogue regional databases, and access to common quality control laboratory.</p>
6. Does scar massage improve pain and function after breast cancer surgery? A randomized control study	
<p>PI: P Truong CBCF \$46,393 (2003-2005)</p>	<p>The goal of this project is to evaluate the effect of scar massage on postoperative pain and function after breast cancer surgery.</p>
7. Eliciting autoimmunity to ovarian tumours in mice by genetic disruption of T cell tolerance mechanisms	
<p>PI: B Nelson US Dept of Defense US\$147,707 (2000 – 2005)</p>	<p>Our goal is to gain insights into how ovarian cancer cells evade rejection by the T cells of the immune system. The project will generate modified T cells and tested to see if the anti-tumour immune response can be improved.</p>
8. Evaluation of internal mammary lymph nodes	
<p>PI: D Mankoff (U.Washington) Co-I: V Bernstein NIH US\$2,000,000 (2001-2006)</p>	<p>The goals are to: 1) develop diagnostic roles of PET to identify IMN metastases, and 2) develop methods for using FDG PET in planning radiotherapy trials.</p>
9. Exploiting the immunological effects of standard treatments in prostate cancer	
<p>PI: B Nelson US Dept of Defense US \$435, 096 (2006-2009)</p>	<p>Using a mouse model and blood samples from prostate cancer patients, the goal is to determine if T cell responses are in fact induced by standard treatments and, if so, whether they delay or prevent tumour recurrence.</p>
10. High school programs at the Deeley Research Centre	
<p>PI: B Nelson NSERC Promo Science \$35,100 (2005-2007)</p>	<p>The aim is to provide high school students the opportunity to explore cancer research from the front lines.</p>
11. Molecular pathways influencing progression of early breast cancer	
<p>PI: P Watson CIHR \$127,790 (2005) \$127,790 (2006) \$575,055 (2003-2008)</p>	<p>The goal is to determine the significance and the biological mechanism of action of S100A7, one of the most highly expressed genes in pre-invasive breast cancer.</p>

12. Overcoming barriers to communication through end of life and palliative transitions	
<i>PL: P Kirk, F Lau (UVic)</i> <i>Co-I: G Maclean, CA Syme</i> CIHR \$257,604 (2005) \$259,544 (2006) \$966,000 (2004-2008)	The goal is to create a collaborative, interdisciplinary team and practice community to engage in cross-theme research and training in communication through transitions from curative to end-of-life and palliative care.
13. Pacific ovarian cancer research consortium/SPORE in ovarian cancer project 3: T cell therapy of ovarian cancer	
<i>PI: N Urban (FHCRC)</i> <i>Co-PI: B. Nelson</i> NIH US \$22,635 (2004-2009)	The goal is to perform a Phase I clinical trial to determine whether adoptive transferred autologous CD4+ and CD8+ T cell clones can delay tumour recurrence in ovarian cancer patients.
14. Palliative care in cross-cultural context: A NET for equitable and quality cancer care for ethnically diverse populations	
<i>PL: R Doll, A Kazanjian (UBC)</i> <i>Co-I: CA Syme</i> CIHR	For a project description see Sociobehavioural Research.
15. Prospective evaluation of the implantation of fiducial markers as a treatment planning tool for external beam radiotherapy in prostate cancer	
<i>PI: E Berthelet</i> <i>VIRAD Catalyst Grant</i> \$13,500 (2006)	The implantation of gold fiducial markers in the prostate allows the quantification of prostate motion during the course of treatment. Further testing is needed in order to assess if the motion of the prostate and an algorithm can be developed so that the systematic use of fiducial markers may not be necessary in all patients.
16. The BC Cancer Agency Canary Project	
<i>PI: B Nelson</i> <i>Canary Foundation</i> \$1,000,000 (2006-2008)	The goal is to produce antibodies and immunoassays for the early detection of ovarian cancer.
17. The estrogen receptors in human breast cancer	
<i>PI: L Murphy (U Manitoba)</i> <i>Co-PI: P Watson</i> CIHR \$51,047 (2005) \$5,009 (2006) \$117,121 (2004-2008)	Our goal is to explore the roles that alterations in protein activity, DNA methylation and/or chromatin structure have in the association of altered expression of both ERa and ERb in human breast cancer.