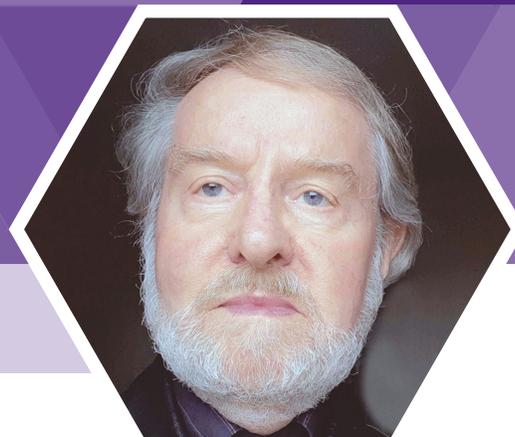


Biology Seminar



Western
UNIVERSITY · CANADA

12:30 - 1:30 pm
Friday, March 29, 2019
BGS 0153



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Department of Biology
Western University

New Approach To Breast Cancer: etiology, detection, intervention, treatment

Although breast cancers have received more research attention and funding than all other cancers, for a large percentage of breast cancer cases the prevailing estrogen-based causal explanations, diagnostics and therapeutics either do not apply, or at best remain inadequate.

We discovered and identified the hormones, 5alpha-pregnane-3,20-dione (**5alphaP**) and 3alpha-dihydroprogesterone (**3alphaHP**), and have shown that their opposing actions help to explain various (if not all) breast cancers, as well as maintenance of, or return to, 'normalcy'.



In my talk I will summarize findings from two decades of in vitro and in vivo research, including:

- **5alphaP stimulates**, whereas **3alphaHP suppresses** onset, growth and metastasis of various (perhaps all) types of breast cancers
- the opposing actions of the hormones occur at the level of distinct receptors, gene expression, cell signaling, and cell proliferation, apoptosis, adhesion, migration and invasion
- the relative concentrations of the two hormones in the breast microenvironment determine progression to neoplasia as well as maintenance of normalcy
- upregulation of [**3alphaHP:5alphaP**] concentration ratios favours 'normal' (non-cancerous) cell states, and suppresses breast cancer onset, progression and metastasis, and can result in regression of existing tumors, suggesting new hormonal therapeutics for breast cancers.
- a novel diagnostic assay for the detection of breast cancers has been developed in my lab and is being tested in a local trial.

Conclusion. Knowledge of the synthesis and opposing actions of the endogenous hormones, 5alphaP and 3alphaHP, provides a unifying theory of hormonal control of various breast cancers as well as of 'normalcy', and favours new approaches to etiology, detection, intervention and treatment of breast cancers.



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