





JOINT TRANSNATIONAL CALL 2016:

"Minimally and non-invasive methods for early detection and/or progression of cancer"

PARTNER REQUEST/COLLABORATION OFFER

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***I agree with the publication of my contact data and of this form on the TRANSCAN-2 Website:**

YES



SEARCH FOR A COLLABORATOR

IF YOU ARE LOOKING FOR A PARTNER IN YOUR SUGGESTED PROPOSAL, PLEASE SPECIFY ALSO THE NEEDED EXPERTISE

Project proposal

Project title (draft): Comprehensive Ontology using Metabolomics and MRI for Prostate cancer Stratifications (COMPASS)

Short description of the project in preparation and of the consortium; description of the areas of expertise needed (Max. 2000 words):

Prostate cancer is the second most common and the fifth leading cause of death from cancer in men. Prostate cancer incidence varies worldwide; the rates are highest in Western countries (ASR 9 per million) but remain low in Asian populations (ASR 1 per million). Mortality rates are generally high in predominantly black populations, very low in Asia and intermediate in the Americas and Oceania. Decision-making for optimal treatment is difficult because of background benign prostate hyperplasia (BPH).

Prostate specific antigen (PSA) testing and subsequent biopsy has become widespread in both European and Asian countries. Recent advances in metabolomics and mpMRI have shown the potentials in minimally and non-invasive methods for early detection and/or progression of prostate cancer. Specifically, sarcosine has been identified, based on metabolomics analysis of blood and urine, as a biomarker for tumour progression. The American College of Radiology (ACR) and the European Society of Urogenital Radiology (ESUR) have developed Prostate Imaging Reporting and Data System (PIRADSv2.0) for cancer risk stratification based on multiparameteric magnetic resonance imaging (mpMRI).

A comprehensive ontology focusing on metabolomics and mpMRI approaches will bring benefits for prostate cancer patients in disease stratification and treatment selection.

We are looking for collaborations with European research groups, in order to understand the differences between Western and Eastern types prostate cancer.

We also would like to work with bioinformatics groups to build a comprehensive ontology integrating multi-dimensional data generated from clinical, metabolomics, mpMRI analysis.



OFFER FOR COLLABORATION

IF YOU PROPOSE YOURSELF AS A PARTNER IN A CONSORTIUM, PLEASE DETAIL YOUR EXPERTISE

Short description of the areas of interest and expertise (Max. 2000 words):

The Clinical Phenome Centre and Imaging Core Laboratory, headed by Professor Gigin Lin, focuses on the use of magnetic resonance imaging (MRI) and spectroscopy (MRS), nuclear magnetic resonance (NMR) and liquid chromatography–mass spectrometry (LC-MS) in the study of cancer.

Our long-term objective is to develop minimally and non-invasive methods to understand the spatial and temporal phenotypes along the journey of cancer patients, to improve clinical decision-makings on early detection, treatment planning and monitoring, and survival prediction.

Chang Gung Memorial Hospital (CGMH) is the largest cancer centre in Taiwan. We have collected digitalised clinical and imaging data for over 10 years and have links to the Taiwanese National Healthcare Database. More than 200 pairs of IRB-approved prostate cancer tissues with normal counterparts and blood/urine samples are stored in CGMH Tissue Bank. All of them have corresponding mpMRI data.

We are now entering the 4th consecutive year of a long-term longitudinal cohort collecting blood and urine samples from healthy ageing population with more than 200 male subjects aged 65 years or above enrolment each year.

Our aim is to use metabolomics approach as a screen tool to detect early prostate cancer from general population, and mpMRI to precisely guide therapy. The tissue metabolomics analysis further provides insights into the underlying nature of the prostate cancer.