

25<sup>th</sup> World Congress on**CANCER SCIENCE AND THERAPY &**10<sup>th</sup> World Congress on**BIOMARKERS & CLINICAL RESEARCH**

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**Leroy J Lowe***Lancaster University, UK***Tackling heterogeneity in advanced cancers with personalized combination therapeutics**

Tackling heterogeneity in advanced cancers will require personalized therapeutic protocols customized for an array of molecular targets unique to each patient. However, many existing therapies are highly toxic and approved for only a limited subset of cancers, so the range of therapeutic combinations for a given cancer is often limited. Recently, a multinational taskforce of 180 researchers collaborated to put forward a design for a broad-spectrum therapeutic approach to prevent high-risk cancers, treat refractory cancers and prevent disease relapse. In doing so, they identified a great number of natural health products and re-purposed pharmaceuticals that could be used in conjunction with existing standard of care to reach many targets simultaneously. The approach leverages our understanding of the molecular biology of the hallmarks of cancer and combines it with the principles of precision medicine and network pharmacology. The goal now is to use genomic and proteomic information to provide physicians with complementary, low-toxicity protocols that can be developed dynamically, individualized, and then used to support cancer patients who are already undergoing traditional modes of treatment. Several challenges exist, but clinical trials are now being initiated to validate key assumptions. It will necessitate concurrently administered combinations of many agents using metronomic dosing regimens specifically designed and managed to ensure patient safety. This is a logical next step forward in personalized cancer therapeutics and it will help us take advantage of next generation sequencing information. The future will most certainly make use of broad-spectrum protocols to enhance anti-cancer synergies and improve patient outcomes.

**Biography**

Leroy J Lowe is the President and Cofounder of Getting to Know Cancer, a Canadian Non-Profit Organisation that is focused on the advancement of cancer research. His PhD is from Lancaster University in the UK and he is the Key Architect of the Halifax Project (2011-2015), a global initiative that involved more than 350 cancer researchers in 31 countries. He is currently focused on the BroadSpec Clinical Trials, a multi-institution case-series that will encompass prophylactic trials for myelodysplastic syndrome patients who are at high risk of developing acute myeloid leukemia and therapeutic trials for patients with advanced-stage ovarian cancer, pancreatic ductal adenocarcinoma or glioblastoma multiforme.

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