



ICGC launches six new projects from Australia, France, Germany, Japan and Singapore

Toronto – (February 4, 2015) Today, World Cancer Day, the International Cancer Genome Consortium (ICGC) announced six new projects from Australia, France, Germany, Japan and Singapore. These projects seek to identify the genomic drivers in melanoma, uterine, lung, bile duct, gastric and blood cancers and will help to lay the foundation for developing treatments tailored to patients' individual needs.

The Consortium leads worldwide efforts to map the genomes of both common and rare cancers and has the goal of identifying cancer-causing mutations in more than 25,000 tumours representing more than 50 types of cancer of clinical and societal importance across the globe.

There are now 85 ICGC projects underway at research institutes in Asia, Australia, Europe, North America and South America.

"On World Cancer Day I am pleased to announce that the ICGC continues to expand and is making a real contribution to the development of personalized cancer treatments and prevention strategies," said Dr. Tom Hudson, President and Scientific Director of the Ontario Institute for Cancer Research and a co-founder of the ICGC. "It is exciting to see the ICGC continue to grow and I am pleased to welcome the researchers working on these six new projects to the Consortium."

The Consortium also announced the scheduled release of new datasets that will provide new genomic data to researchers worldwide. This includes 55 different cancer types or subtypes from 18 different primary sites, including bladder, blood, bone, brain, breast, cervical, colorectal, esophageal, head and neck, liver, lung, ovarian, pancreatic, prostate, renal, skin, stomach, and uterine cancers. These datasets are used by researchers in their search for, and identification of, the mutations that drive cancer and can be used as targets for the development of new treatments and therapies. Cancer genome data are available on more than 12,807 donors through an Internet portal at www.icgc.org.

More than 220 ICGC researchers will come together for the 10th ICGC Scientific Workshop in Verona, Italy from February 15 to 17, 2015. Attendees will discuss what has been discovered so far and develop strategies for the future direction of the Consortium. Each ICGC member project is conducting a comprehensive, high-resolution analysis of the full range of genomic changes in at least one specific type or subtype of cancer, with studies built around common standards of data collection and analysis. The ICGC has conducted benchmarking exercises to improve sequencing and analysis results.

In Italy, the researchers will report on progress on a number of fronts, including:

- **The PanCancer Analysis of Whole Genomes (PCAWG) project** - the ICGC and The Cancer Genome Atlas (TCGA) are committing to study the so-called "dark matter" of the human genome, with more than 2,000 tumour-normal whole genome pairs from 23 different tumour types. Progress in the past five years focused on the two per cent of DNA that make human proteins. PCAWG will be the first international project to systematically analyze the other 98 per cent of the genome. This work is expected to identify new classes of cancer mutations that coordinate cancer specific processes. This is a very exciting milestone in human cancer research. More than 600 researchers are contributing to the interpretation of the data and writing of papers that will focus on specific analyses. Because the projected size of the pan-cancer dataset for 4,000 whole genome sequences is very large, PCAWG is using a distributed compute cloud environment, using computing centres in the U.S.A., Europe and Asia that meet technical requirements of the project and the bioethical framework of the ICGC and its member projects.
- **ICGC2** - the objective of ICGC2 is to link genomic data to clinical data. In order to make further progress, researchers require a more thorough description of the tumour beyond genomic analysis, including how the tumour was diagnosed, the patient's clinical response, toxicology and outcomes as well as more complex scientific data such as patient phenotype and exposome. Researchers have to think about how to implement genomic tests and use genomics to improve patients' treatments. Researchers must demonstrate that the expense of genomic testing provides diagnostic and prognostic information that actually allows for better care and longer life expectancy for cancer patients.

"The cancer challenge is immense and the only way to meet it head on is through collaboration," said Dr. Aldo Scarpa, Director of the ARC-NET Research Centre for Applied Research on Cancer and Chair of the Department of Pathology and Diagnostics at the University and Hospital Trust of Verona, Italy. "The ICGC meeting in Verona, Italy will bring together the best minds from around the world in an effort to address this challenge and find new solutions for cancer patients. I look forward to an informative and productive meeting."

The ICGC develops policies and quality control criteria to help harmonize the work of member projects located in different jurisdictions. Data produced by ICGC projects are made rapidly and freely available to qualified researchers around the world via the ICGC Data Coordination Centre (<http://dcc.icgc.org>) housed in Toronto, Canada.

For more information and updates about ICGC activities, please visit the website at: www.icgc.org.

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