

2<sup>nd</sup> International Conference & Exhibition on

# Tissue preservation and Bio-banking

September 12-13, 2016 Philadelphia, USA

## Data harmonization is the initial step on the desire to share biospecimen and data across birth cohort studies for more collaboration

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Data sharing across cohort studies for joint analysis is the trend of etiology study by a large number of cases. Shanghai Birth Cohort (SBC for short) banks samples collected from preconceptional care, which links to the questionnaire data and medical records. Two birth cohorts by Canadian team share many key elements of scientific questions with SBC. This is thus a great opportunity for the teams to share the resources. However, study design and information collection vary with studies, which generate data heterogeneity across the studies, not speaking of ethical and legal barriers that also challenge data sharing and international collaboration. By the joint effort, the two teams have launched a collaboration aiming to capitalize on data harmonization to pave the way of data sharing. The approach for data harmonization begins with the datasets which are selected based on mutual research interests and harmonization potentials. With the harmonized datasets, we apply two different approaches for joint analysis: We take “federated analyses” approach in which the joint analysis is conducted with Datashield technology, which allows to share descriptive analysis across cohorts without sharing individual-level data. This approach is to bypass ethical and legal restriction across cohorts and countries to facilitate international collaboration and; the team has strong interest for further collaborative study, we thus take “pooled analysis” approach, which allows to pool the data for further analysis under the established ethical framework for good ethical governance. In a word, harmonization of datasets is essential for biosample and data sharing.

### Biography

Charles Wang, after many years of wet lab experience and living in the United States, decided it was time for a change of scenery and moved back to China in 2012. He is recruited specifically by his professional skill set and experience in scientific solutions for biobank and informatics. He has earned his leading role in the young field of biobanking informatics in China. He is traveling between China and USA for his new challenges and promotes international collaboration potentials. He is not only recognized for his dedication to biobanking, but also to data harmonization and sharing model development.

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