

## **Fields/CANSSI Thematic Program: Statistical Inference in Big Data**

A thematic program on Statistical Inference in Big Data is being proposed for January to June, 2015 at the Fields Institute for Research in the Mathematical Sciences. This brief overview is to introduce the program to the statistical, mathematical and computational research communities.

The proposal is being prepared by a steering committee appointed by the Canadian Statistical Sciences Institute, CANSSI, with allied activities proposed at the Pacific Institute for Mathematical Sciences and the Centre de Recherches Mathématiques.

If funded, the thematic program will be built around a set of cross-cutting themes, including deep learning, statistical learning, visualization, and inference, and a set of scientific themes, which will include evidence-based social policy, health and public policy, physical sciences, and environmental sciences.

### **Conferences and Workshops:**

Opening Conference (Fields) – overview of main themes

Workshops (3-4) (Fields): social policy, health policy, visualization, inference

Closing Conference (Fields)

Workshops (1-2) (PIMS): physical sciences, environmental sciences

Workshops (2) (CRM): New developments in deep learning; Web and network data and data security

### **Training:**

Summer School (AARMS) July-August 2014: Statistical learning and big data

Winter School (Fields): Overview lectures on main themes

Graduate Courses (Fields): Deep Learning; Data Science

### **Distinguished Lectures:**

Distinguished Lecture Series, and Distinguished Lecture Series in Statistics: each consists of one public and one more technical lecture by world leaders. In 2014 the DLSS will be given by Bin Yu, UC Berkeley

### **Participation:**

We expect funding to be available for partial support for advanced graduate students, PhDs, junior researchers for long-term visits to the Fields Institute. Activities at Fields are also available for participation by webinar. We also expect to be able to partially support long- and short-term visitors to Fields. NSF funding supports travel of researchers from the US. Workshops have a nominal registration fee, and will have a limit on the number of registrants.