# Submittee: Young-Heon Kim Date Submitted: 2013-08-27 09:12 Title: Analysis and Partial Differential Equations Event Type: Conference-Workshop

#### Location:

UBC, Vancouver.

#### Dates:

July 7 -- 12, 2013

# **Topic:**

Mathematical analysis and PDE: optimal transportation, the calculus of variations, convex analysis, elliptic systems, geometric analysis

# Methodology:

Lectures

#### **Objectives Achieved:**

The conference talks surveyed the state-of-the-art in Analysis and PDE, highlighting the connections between them, and emphasizing their ever-growing importance in geometry. Various recent developments were explained, and some key future directions were identified. In particular, graduate students and junior researchers were exposed to cutting edge research across several fields. There was prolific, and hopefully fruitful, interaction and exchange of ideas among the speakers and participants.

# **Scientific Highlights:**

Several breakthrough results were presented, opening new directions of research: these include Yann Brenier's result concerning volume preserving diffusion process related to fluid mechanics, Alessio Figalli's stability result concerning convex hull, Fanghua Lin's results on geometric measures and topology of nodal sets, Vitali Milman's results on new structures on log-concave functions, and Chang-Shou Lin's results on mean-field equations combining PDE and number theory.

# Organizers:

Stephen Gustafson, UBC// Kim, Young-Heon, Mathematics, UBC// Li, Dong, Mathematics, UBC// Moameni, Abbas, Mathematics, Lethbridge// Tsai, Tai-Peng, Mathematics, UBC// Wei, Juncheng, Mathematics, UBC// Zhu, Meijun, Mathematics, Oklahoma

# Links:

http://www.pims.math.ca/scientific-event/ghoussoub

# File Uploads:

Additional Upload 1: http://www.pims.math.ca/files/final\_report/NG-abstracts.pdf