Problems and Perspectives on the Calculus of Variations:

Physics, Economics, and Geometry

August 20 – 25, 2001 *"Transport me to Toronto!"*

In recent years the optimal transportation problem of Monge and Kantorovich has been a focal point for exciting mathematical developments combining calculus of variations, partial differential equations, convexity and geometric measure theory, as well as interesting applications to models from physics, geometry, computer vision, earth science and economics.

Our aim is to bring together experienced and young researchers working in a diversity of related areas to share their discoveries and discuss open problems and perspectives for the future of this blossoming field.

The conference is supported by a U.S. National Science Foundation Focused Research Group on Optimal Transportation, and will be hosted by the by The Fields Institute. Some funding is available to defray the local expenses of young researchers and scientists without grants.

The deadline for requesting financial assistance is May 31, 2001.

Featuring:

Minicourses by:

Yann Brenier (CNRS Nice)

Felix Otto (Universitaet Bonn)

And special mini-symposia on:

GEOMETRICAL ASPECTS OF FLUID MECHANICS

(organized by Michael Cullen)

MATHEMATICAL METHODS IN COMPUTER VISION

(organized by Allen Tannenbaum and Tony Yezzi)

TRANSPORT PROBLEMS HIDING IN ECONOMIC THEORY

(organized by Ivar Ekeland)

Confirmed Lectures:

Luigi Ambrosio (Scuola Normale Superiore di Pisa)

Guy Bouchitte (University of Toulon)

Giuseppe Buttazzo (Scuola Normale Superiore di Pisa)*

Eric Carlen (Georgia Institute of Technology)

Gui-Qiang Chen (Northwestern University)

Mike Cullen (European Center for Medium Range Weather Forecasts)

Ivar Ekeland (CEREMADE, University of Paris IX, Dauphine)

Lawrence C. Evans (University of California at Berkeley)

Nassif Ghoussoub (Pacific Institute of Mathematical Sciences)

Allen Tannenbaum (Georgia Institute of Technology)

Neil Trudinger (Australian National University)

John Urbas (Australian National University)

Cedric Villani (Ecole Normale Superieure de Lyon)

* to be confirmed

Organizing Committee:

Luis Caffarelli (University of Texas at Austin)

Mikhail Feldman (University of Wisconsin at Madison)

Robert McCann (University of Toronto)

Focused Research Group:

Mike Cullen (European Ctr Medium Range Weather Forecasts)

Lawrence C. Evans (University of California at Berkeley)

Wilfrid Gangbo (Georgia Institute of Technology)

For information contact: variations@fields.utoronto.ca

www.math.toronto.edu/mccann/conf-home.html