Pacific Institute *for the* Mathematical Sciences

CRM-FIELDS-PIMS PRIZE LECTURE
NASSIF GHOUSSOUB

Friday, September 13, 2019
3:00 pm

Earth Science Building, Room 1012
University of British Columbia

FROM MONGE OPTIMAL TRANSPORTS TO OPTIMAL SKOROKHOD EMBEDDINGS

Nassif Ghoussoub
Distinguished University Scholar and Professor of Mathematics at the University of British Columbia

Biography
Nassif Ghoussoub obtained his Ph.D. from Université Pierre et Marie Curie in 1975. Shortly thereafter he joined the Mathematics Department at UBC, where he is currently Distinguished University Professor. Professor Ghoussoub's contributions have been recognized by the Coxeter-James, Jeffery-Williams and David Borwein Awards of the Canadian Mathematical Society, honorary doctorates from Université Paris-Dauphine and the University of Victoria, and Fellowship in the American Mathematical Society and the Royal Society of Canada. He is an Officer of the Order of Canada.

Abstract
The optimal transportation problem, which originated in the work of Gaspard Monge in 1781, provides a fundamental and quantitave way to measure the distance between probability distributions. It has led to many successful applications in PDEs, Geometry, Statistics and Probability Theory. Recently, and motivated by problems in Financial Mathematics, variations on this problem were introduced by requiring the transport plans to abide by certain "fairness rules," such as following martingale paths. One then specifies a stochastic state process and a costing procedure, and minimize the expected cost over stopping times with a given state distribution. Recent work has uncovered deep connections between this type of constrained optimal transportation problems, the celebrated Skorokhod embeddings of probability distributions in Brownian motion, and Hamilton-Jacobi variational inequalities

About the CRM-Fields-PIMS Prize
The CRM-Fields-PIMS prize is the premier Canadian award for research achievements in the mathematical sciences. It is awarded jointly by the three Canadian mathematics institutes. The winner receives a monetary award and an invitation to present a lecture at each institute within one year after the award is announced.

MORE DETAILS: HTTPS://WWW.PIMS.MATH.CA/SCIENTIFIC-EVENT/190913-CFPPLNG

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