

DIFFERENTIAL GEOMETRY/PDE SEMINAR

THURSDAY, OCTOBER 11, 2012

PADELFORD C-401

3:30PM–4:30PM

Cournot-Nash Equilibria on the sphere

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Optimal Transport generally seeks to find a pairing in which an overall cost is minimized. There is a special case when the pairing minimizes not only the overall cost but also the cost to each individual agent in the support of the source measure. These are called Cournot-Nash Equilibria and their connection to the optimal transport problem has been developed recently by Blanchet and Carlier. One can find CNE for certain types of costs, by solving an optimal transportation problem with a fixed source measure and target measure to be determined. In this case, it is natural to consider costs not only involving pointwise transportation costs but also ‘crowding’ and non-local terms involving the target measure. This results in an interesting Monge-Ampère equation with both zeroth order and non-local terms. In this talk we show that, under some mild conditions, this equation can be solved smoothly on the sphere.

For more information about this seminar, visit the DG/PDE Seminar Web page (from the Math Department home page, www.math.washington.edu, follow the link **Seminars, Colloquia, and Conferences**).