



## Lecture series

on

## Optimal Transport for Data Analysis

by

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### Contents:

We will discuss the mathematical foundations of optimal transport, various numerical methods and applications in data analysis problems. Reminders on measure theory and functional analysis will be given where required.

Tentative list of covered topics:

- Kantorovich formulation and duality
- Brenier's polar factorization
- Wasserstein spaces and displacement interpolation
- Beckmann's problem
- Benamou-Brenier formulation and Riemannian point of view
- Wasserstein barycenters
- Entropy regularization and Sinkhorn algorithm

### Schedule:

Wed, 21.6.2017	16.15-17.45	NAM
Thu, 22.6.2017	14.15-15.45	NAM
Fri, 23.6.2017	10.15-11.45	IMS
Wed, 28.6.2017	16.15-17.45	IMS
Thu, 29.6.2017	14.15-15.45	NAM
Fri, 30.6.2017	10.15-11.45	IMS

The principal investigators of RTG 2088 invite you to participate.

### Venue:

IMS: Institute for Mathematical Stochastics, **SR 5.101**, Goldschmidtstr. 7

NAM: Institute for Numerical and Applied Mathematics, **SR MN 55**, Lotzestr. 16-18