

Curriculum Vitae

Seonghyeon Jeong

Personal Information

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Education

- Michigan State University (09/2016 ~ 04/2021)
Ph.D in Mathematics
Advisor : Jun Kitagawa
- Hong Ik University (03/2011 ~ 08/2016)
B.S in Mathematics Education

Research Interests

My research area are optimal transport and related PDEs. Especially, my researches are about optimal transport problems with general cost functions in dynamic settings, MTW type conditions and regularity theory of Monge-Ampère type equations.

Also, I am interested in the applications of optimal transportation. I am working on the Mathematical analysis of dimensionality reduction with some techniques from optimal transportation and PDEs.

Awards and Fellowships

- Silver prize in University Students Contest of Mathematics (33rd, 34th)
Korea Mathematical Society (KMS)
Korea Institute for Advanced Study (KIAS)
2014 (33rd), 2015 (34th)
- College Scholarship (Undergraduate)
Hong Ik University
2014 (FS), 2015 (SS, FS), 2016 (SS)

- University fellowship (Graduate)
Michigan State University
2017(Summer)

Conference and Seminars attended

- Foundation for Mathematical Challenges
Korea Institute for Advanced Study (KIAS)
- Student PDE Seminar
Michigan State University
- Riviere-Fabes Symposium (2019)
University of Minnesota
- Workshop on Free Boundary Problems
Columbia University in the City of New York
- SIAM PDE Webinar
SIAM (Online)
- MBI Optimal Transport Workshop
Ohio State University Mathematical Biosciences Institute (Online)
- 2020 Fields Medal Symposium
The Fields Institute for Research in Mathematical Sciences
- 2020 CMS winter meeting
CMS (Online)
- Introduction to Decision making and uncertainty
IMSI (Online)

Seminar talks

- Partial Regularity of Solutions of the Monge-Ampère Equations
Student PDE Seminar, MSU, 2018
- Underlying Geometry of Optimal Transport
Student Geometry/Topology Seminar, MSU, 2020
- Strong MTW condition to local Hölder regularity in generated Jacobian equations
MPHA Seminar, TAMU, 2020

- Equivalence of the synthetic MTW conditions
CMS winter meeting Optimal transport and applications session, CMS, 2020
- Introduction to optimal transportation, Monge-Ampère type equation, and applications.
NSYSU analysis seminar, NSYSU, 2021

Research and Publication

- Local Hölder regularity of solutions to generated Jacobian equations
Pure and Applied Analysis 3-1 (2021), 163–188.
DOI 10.2140/paa.2021.3.163
- Synthetic MTW conditions and their equivalence under mild regularity assumption on the cost function
ArXiv : 2010.14471