

Curriculum Vitae

Seonghyeon Jeong

Personal Information

- E-mail : jeongs1466@ncts.ntu.edu.tw

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

Professional Career

- Postdoc fellow in National Center for Theoretical Science
09/2021 ~

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. I am interested in the applications of optimal transportations too.

I am also working on data science area, especially dimension reduction and sensor fusion. I am working with Professor Hau-Tieng Wu from Duke University and Professor Chih-Wei Chen from Sun Yat-Sen University on t-SNE algorithm.

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)
- NCTS Nonlinear PDE and Analysis seminar
NCTS

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
- Optimal transportation and Monge-Ampère type equations
NCTS Nonlinear PDE and Analysis seminar, NCTS, 2021
- Introduction to the Optimal Transportation Problem and the Monge-Ampère equation
Taipei Postdoc Seminar, NCTS, 2022
- Structural conditions for generated Jacobian equations
Geometry seminar, Tokyo Metropolitan university, 2022
- Optimal transportation problems and its relation to the Monge-Ampère equations
PDE seminar, UNIST, 2022

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