# UNIST | 수리과학과

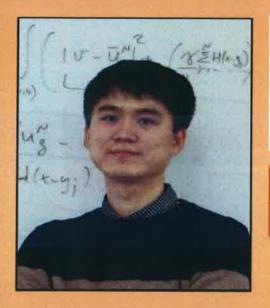# Mathematical Sciences Colloquium

# Well-posedness and singularity formation for Vlasov-Riesz system

Professor

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**Zoom** https://unist-kr.zoom.us/j/87540455917

**Host**

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## Abstract

In this talk, we discuss the Cauchy problem for the Vlasov-Riesz system, which is a Vlasov equation featuring interaction potentials generalizing various previously studied cases, including the Coulomb and Manev potentials. For the first time, we extend the local theory of classical solutions to interaction potentials which are more singular than that for the Manev. Then, we obtain finite-time singularity formation for solutions with various attractive interaction potentials, extending the well-known singularity formation result for attractive Vlasov-Poisson. Our local well-posedness and singularity formation results extend to cases with linear diffusion and damping in velocity.