Dear all,

This week, we will have **two** seminar talks at our **Algebra and Geometry Seminar**, one will be online and the other will be in person. Details are below (but as usual, they can also be found here). For local participants, we have CYTG001 booked so we can all come and attend the seminar together. For online participants, I'll try to stream the 2nd talk via the same link as well (but no promise since this is the first time and we might encounter technical problems)

Best,
Quoc

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## 1st talk

**Space-time coordinates:** 3:00pm (HKT), Wednesday, April 26, 2023. **Zoom talk**, accessible here, or CYTG001.
**Speaker:** Gufang Zhao (University of Melbourne)
**Title:** Quasimaps to quivers with potentials
**Abstract:** This talk concerns non-compact GIT quotient of a vector space, in the presence of an abelian group action and an equivariant regular function (potential) on the quotient. We define virtual counts of quasimaps from prestable curves to the critical locus of the potential. The construction borrows ideas from the theory of gauged linear sigma models as well as recent development in shifted symplectic geometry and Donaldson-Thomas theory of Calabi-Yau 4-folds. Examples of virtual counts arising from quivers with potentials are discussed. This is based on work in preparation, in collaboration with Yalong Cao.

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## 2nd talk

**Space-time coordinates:** 4:30pm (HKT), Wednesday, April 26, 2023. **In-person talk**, CYTG001.
**Speaker:** Qingyuan Jiang (University of Edinburgh)
**Title:** Derived projectivizations and Grassmannians and their applications
**Abstract:** We will explore some applications of the Derived Algebraic Geometry (DAG), a powerful framework developed by Toen-Vezzosi, Lurie and many others. DAG allows us to extend Grothendieck's theory of projectivizations and Grassmannians of sheaves to the cases of complexes. This derived extension is very useful for constructing and studying moduli spaces, especially when the spaces are singular and difficult to analyze in the classical framework. We will discuss the constructions of derived projectivizations and Grassmannians as well as their properties, with a focus on their applications to Abel maps for singular curves and Hecke correspondences for smooth surfaces.
Based on papers arXiv:2202.11636 and arXiv:2212.10488 and works in preparation.