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## ONE WORLD OPTIMIZATION SEMINAR

October 25<sup>th</sup> 2021 @ 15:30 CEST (Central European Summer Time)

**JINGWEI LIANG**

(Shanghai Jiao Tong University)

### On the Acceleration of First-order Methods and a New One

**Abstract.** Over the past decades, driven by the success of the Heavy-ball method, Nesterov's acceleration and FISTA scheme, inertial technique has become one of the most popular approaches for accelerating optimization methods. However, the performance of other inertial "accelerated" first-order methods, such as inertial Douglas--Rachford, is not as good as the aforementioned ones, or even results in deceleration. In this talk, I will first discuss the limitations of inertial technique, particular its failures. Then I will present a geometry inspired acceleration scheme. Both relation with existing work and numerical experiments will be covered.

This is a joint work with Clarice Poon.

*The link of the zoom-room of the meeting and the corresponding password will be announced the day before the talk on the mailing list of the seminar, to which one can subscribe on <https://owos.univie.ac.at>.*