



My Seminar Title on  
FRIDAY, February 12 at 10:00 CET  
**Dr. Zhaoyang Li**

## Challenge and opportunity for ultra-intense lasers

### Abstract.

Ultra-intense lasers (currently called Petawatt lasers) have experienced rapid development in the past three decades, especially the latest several years. Today, two 10-Petawatt lasers have been successfully demonstrated in Europe and China, respectively, breaking the laser peak-power record. In this talk, firstly we will discuss the spatiotemporal effect that would degrade the focused intensity and accordingly limit the real performance of ultra-intense lasers in high-field physics; secondly, we will talk about the possibility to further develop the ultra-intense lasers up to the Exawatt-class.

### References:

1. Zhaoyang Li, et al. "Simulating an ultra-broadband concept for Exawatt-class lasers," *Scientific Reports* 11, 151 (2021).
2. Zhaoyang Li, et al. "Complex spatiotemporal coupling distortion pre-compensation with double-compressors for an ultra-intense femtosecond laser," *Opt. Express* 27(18), 25172-25186 (2019).
3. Zhaoyang Li, et al. "Simulating ultra-intense femtosecond lasers in the 3-dimensional space-time domain," *Opt. Express* 26(7), 8453-8469 (2018).

