

# Short Course on Flow Visualization Sponsored by the Harvard MRSEC

June 22, 2022 (10 am to 2 pm)

Pierce Hall 209 (29 Oxford St, Cambridge)

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The short course is designed for the quick introduction for flow visualization techniques including shadowgraphy, Schlieren, and particle image velocimetry. The course is organized in three sessions over 3 hrs.

For the first lecture, we will talk about shadowgraphy and Schlieren methods that are the method to detect the difference of the refractive index in fluid media. By using the distortion of the light ray through a different fluid, we can observe the motion of fluid.

Secondly, the most conventional flow visualization technique will be introduced, so-called particle image velocimetry (PIV). In this lecture, to perform PIV, three main aspects are discussed, particle, light source, and optics. Furthermore, the optimal conditions for achieving a good vector field are summarized and explained.

Lastly, we will shortly discuss micro-PIV, which is for microfluidics applications. Some distinct features compared to conventional PIV are treated during the lecture.

The meeting will have three sessions, each will last 50 minutes.

Session 1: 10:00 - 10:50 AM

Session 2: 11:00 - 11:50 AM

Lunch: 12:00 - 1 PM

Session 3: 1:00 - 1:50 PM

Please register here before attending:

<https://forms.gle/74bKtgBaGwasP1a89>



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