

# Seminar

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## Institute for Plasma Research

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**Title** : Dynamics of plasma plume in magnetic field using two-directional imaging  
**Speaker** : Dr. Narayan Behera  
IPR, Gandhinagar  
**Date** : 12<sup>th</sup> June, 2019 (Wednesday)  
**Time** : 10.00 AM  
**Venue** : Seminar Hall, IPR

### Abstract:

I have developed a two directional imaging technique to study dynamic behaviour of expanding laser-produced plasma in the presence of magnetic field, especially, to capture the diamagnetic behaviour of plasma plume. Recently, we found that this two directional imaging technique is not only useful for basic research in laser plasma but also has many applications in other fields like, mathematics, manipulation dimension of object, pulsed laser deposition in magnetic field etc. A brief description of development and use of two directional imaging technique to study evolution dynamics of diamagnetic cavity and magnetic striation in laser produced plasma has been presented. The three-axis high frequency B-dot probe data has been used to study diamagnetic behaviour of laser plasma. Moreover material dependence of diamagnetism will be discussed using various metallic targets, like, aluminium, nickel and tungsten. In the end a discussion has been presented on the interesting behaviour of carbon plasma (Y-shaped bifurcation) which is strikingly different from the metallic plasmas.

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