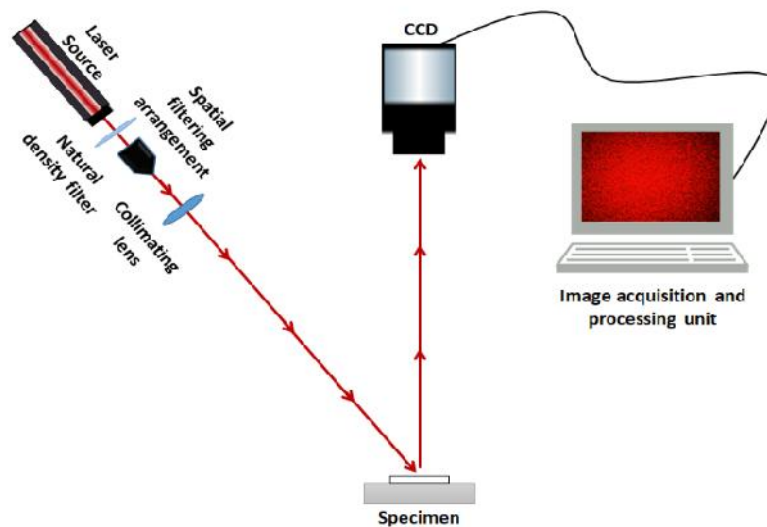# Best Student Poster Award

Ph.D. student Puneet Singh Thakur in the Department of Electrical Engineering working under the supervision of Prof. Vimal Bhatia, have been awarded with "Best Student Poster" Award in the 5th IEEE Workshop on Recent Advances in Photonics (IEEE WRAP 2022) held at IIT Bombay on 4-6 March 2022.

Details

Title: Machine Learning based Biospeckle Technique for Identification of Seed Viability using Spatio-temporal Analysis.

Viability assessment is one of the most important parameters for ensuring high crop yield. Hence, in this work, a machine learning (ML) based automatic approach for detection of seed viability is developed by using laser biospeckle technique. Temporal (absolute value difference (AVD)), as well as spatial features (contrast, and the spatial absolute value difference (S-AVD)) from the acquired speckle images were extracted to train and test several state-of-the-art ML models. Obtained results showed that artificial neural network (ANN) based predictive model possess better performance as compared to other models with overall accuracy of 97.65% for classifying the viable seeds. The same is valueable for farmers in India and abroad.

Experimental Setup of biospeckle analysis