

Registration Seminar

Seminar Title	: Study of pulsations and mass-loss in evolved massive stars
Speaker	: Sugyan Parida (Rollno : 522ph6001)
Supervisor	: Dr. Abhay Pratap Yadav
Venue	: MC 126
Date and Time	: 12 Sep 2024 (11 AM)
Abstract	<p>: Massive stars (mass > 8 solar mass) undergo a range of brief transitional phases during their evolution, exhibiting significant changes in their properties such as luminosity and surface temperature, often accompanied by enhanced mass loss. During these phases, very massive stars may briefly transition into Wolf-Rayet stars, B[e] supergiants, or luminous blue variables (LBVs) where they show diverse variability as evident in their photometric and spectroscopic studies. In several cases, these variabilities are found to be linked with pulsation of stars.</p> <p>My research aims to investigate the role and consequences of pulsation in massive stars using observations and numerical modeling. In this direction, I plan to use high precision observations obtained from the space telescope Transiting Exoplanet Survey Satellite (TESS) and numerical modeling which involves construction of models of considered massive stars and linear stability analysis for radial and non radial perturbations. The linear stability analysis will allow us to determine pulsation period and growth rate of unstable modes. Further the final fate of these unstable models will require non linear numerical simulations.</p>