



**S N BOSE NATIONAL CENTRE
FOR BASIC SCIENCES**

Block JD, Sector III, Salt Lake, Kolkata 700 106

DEPARTMENTAL SEMINAR *Astrophysics and Cosmology*

29th October'2021

3.30 PM

ONLINE

SPEAKER

Ms. Piyali Saha, PDRA -I, SNBNCBS

TITLE OF THE TALK

**Identification and Characterization of Young Stars in
Star Forming Regions**

ABSTRACT

Stars are born within highly obscured molecular clouds and grow through rapid accretions and violent ejections. Based on different techniques in various wavelength regimes, young stellar objects (YSOs) are identified and characterized to study the star formation history in the molecular clouds. In different star-forming regions, we identified several sources as young stars based on the latest Gaia measurements and characterized them based on their properties. The presence of four Herbig Ae/Be stars, along with other low-mass YSOs, indicates star formation is prevalent in the Cepheus Flare Shell. Based on the distance and proper motions of the known YSOs, some comoving sources are identified towards LDN 1177 and 1172/1174 star-forming regions, and their youth has been investigated. Using the proper motion measurements obtained from the Gaia of the YSOs in the vicinities of Bright-Rimmed Clouds (BRCs), we determined that the YSOs associated with the BRCs are found to show a trend of moving away from the direction of ionizing sources due to the "Rocket Effect". We also found several comoving sources lying in the vicinity of several BRCs, which are kinematically associated with the previously known YSOs and therefore, could be young stars unidentified in earlier studies. The details of these studies will be discussed in the talk.

HOST FACULTY

Dr. Ramkrishna Das

Associate Professor & Seminar Coordinator, Astrophysics & Cosmology
