

---

Departmental Seminar

---

Seminar Title	: Exploring the antimicrobial and anticancer potential of bioactive compounds derived from a marine bacterium <i>Streptomyces sampsonii</i> CSEA01
Speaker	: Poojarani Panda
Supervisor	: Santosh Kumar #2787
Venue	: LS Seminar Hall
Date and Time	: 09 Dec 2024 (16:30 hrs)
Abstract	: Marine microorganisms synthesize bioactive compounds with various bioprospecting potentials. The unique biochemical pathways and adaptations to extreme conditions contribute to their ability to produce valuable compounds with antibacterial and anticancerous properties. The present study focuses on the potential of marine microorganisms as promising sources of novel bioactive compounds. Water, soil, biofilm, and algae samples were collected from Chilika Lake, Odisha, India, where the highest microbial population was observed in soil samples. Primary and secondary screening revealed a high antagonist and antimicrobial potential of <i>Streptomyces sampsonii</i> CSEA01 against <i>Streptococcus pneumoniae</i> MTCC655. Maximum secondary metabolite production by <i>Streptomyces sampsonii</i> CSEA01 was achieved under optimized culture conditions using International Streptomyces Project-2 (ISP2) medium at pH 6 and 30°C temperature. Using ethyl acetate as the solvent, crude secondary metabolites were extracted. The crude extract exhibited cytotoxic activity against oral squamous cancer cell, indicating their anticancerous property. Therefore, the secondary metabolites derived from the marine bacterium <i>Streptomyces sampsonii</i> CSEA01 hold significant therapeutic potential for developing new antimicrobial and anticancer agents. Key Words: Marine microorganisms, antagonist activity, antibacterial activity, secondary metabolites, anticancerous activity