National Institute of Technology Rourkela

Departmental Seminar

Seminar Title	: Deep Bioinformatics Boot Camp – Season2
Speaker	: Piyasa Nandi (Roll No: 522ls2016)
Supervisor	: Santosh Kumar #2787
Venue	: LS Seminar Hall
Date and Time	: 03 Mar 2025 (10:30 AM)

Abstract : It was a workshop entitled "DEEP BIOINFORMATICS BOOT CAMP – SEASON2" organized by The Himalayan Centre for High-throughput Computational Biology (HiCHiCoB), a BIC of DBT, Govt. of India; CSIR-Institute of Himalayan Bioresource Technology, Palampur, H.P., India. The workshop was themed on "Transcription regulation" and held from 18th to 21st February 2025. The first half of each day was dedicated to lectures, while the second half covered hands-on practical sessions. The first day began with an understanding of the challenges in plant transcription factor-based regulations and epigenomic regulations and followed by the fundamentals of Linux OS Python programming. The second day was dedicated towards understanding transcriptional regulations related hi-throughput data, network approaches to decode a system level understanding followed by NGS (Next Generation Sequencing) data analysis, co-expression network analysis and interpretation of regulation. On the third day we have learned genomic organization, chromatin remodelling, enhancers, their long distanced clustering, and Hi-C sequencing data analysis and statistical uses of R- language. The fourth day was dedicated to understanding the basic statistics used in deciphering transcriptional regulation, where we learned the Bayesian Nets and Causality, which drastically improve precision and accuracy in decoding conditional specificity of transcriptional regulatory networks and static approaches like WGCNA/Co-expression networks.