National Institute of Technology Rourkela

Registration Seminar

Seminar Title	: Exploring the Effect of Tetracycline Hydrochloride And Their Mechanism of Action in Different Organs of Drosophila Melanogaster
Speaker	: Priyatama Behera (Rollno : 522ls2015)
Supervisor	: Prof. Monalisa Mishra
Venue	: LS Seminar room
Date and Time	: 22 Nov 2024 (11 Am)
Abstract	: Antibiotics have become more significant after COVID-19 since they are new environmental pollutants that have the potential to cause obesity. Tetracycline (TC) was reported as the second most used antibiotic by the world Pharmaceutical companies. The degree to which TC is safe for humans and animals is a concern because the careless use of antibiotics is changing bacteria and their DNA, leading to increasingly resistant mutations. Little is now known about how this obesogen affects human health and the environment. To further understand the negative consequences of TC, we used *Drosophila melanogaster* as a model organism. In this study, we found that long-term exposure to TC delays the larva to pupal transition by 2 days. We also observed that a smaller number of offsprings are produced by reducing the egg-laying capacity of females. TC increased the body weight by stimulating glucose levels and lipid droplet accumulation. ROS level was elevated and lifespan was reduced. Moreover, TC diminished locomotor activity of both larvae and adults in an age-dependent manner. VPS13 expression is significantly altered in TC treated flies. The current study will decrypt the upshot of TC in different organs of *Drosophila melanogaster*.