

## 2<sup>nd</sup> Work Presentation

**Project Title:** Effects of Metformin on Reproductive Aging in Rats

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**Date and time:** Friday, November 7, 2025, 3:00 PM

**Venue:** Dr. Shanta Rao Auditorium

### Abstract

Aging is a progressive process characterized by the gradual decline of physiological functions essential for survival and reproduction. Among various organ systems, the female reproductive system exhibits accelerated aging, leading to diminished ovarian reserve, poor oocyte quality, and reduced fertility potential. Accumulation of oxidative stress, mitochondrial dysfunction, and altered hormonal profile are key contributors to this reproductive decline. Metformin is an oral antidiabetic drug known to positively influence anti-aging metabolic and cellular processes associated with oxidative stress, chronic inflammation, autophagy and cellular senescence. Metformin known to improve ovarian functions in PCOS women, however anti-aging effects of metformin in ovarian function is not known. The aim of present study is to investigate anti-aging effects of metformin in spontaneous aging rats. Low dose of metformin was administered for 6 months and longitudinal assessment of markers of ovarian aging studied in the spontaneous aged rats. The work done and results obtained so far will be discussed in the presentation.