



PMRF-ISSS010/III/2025

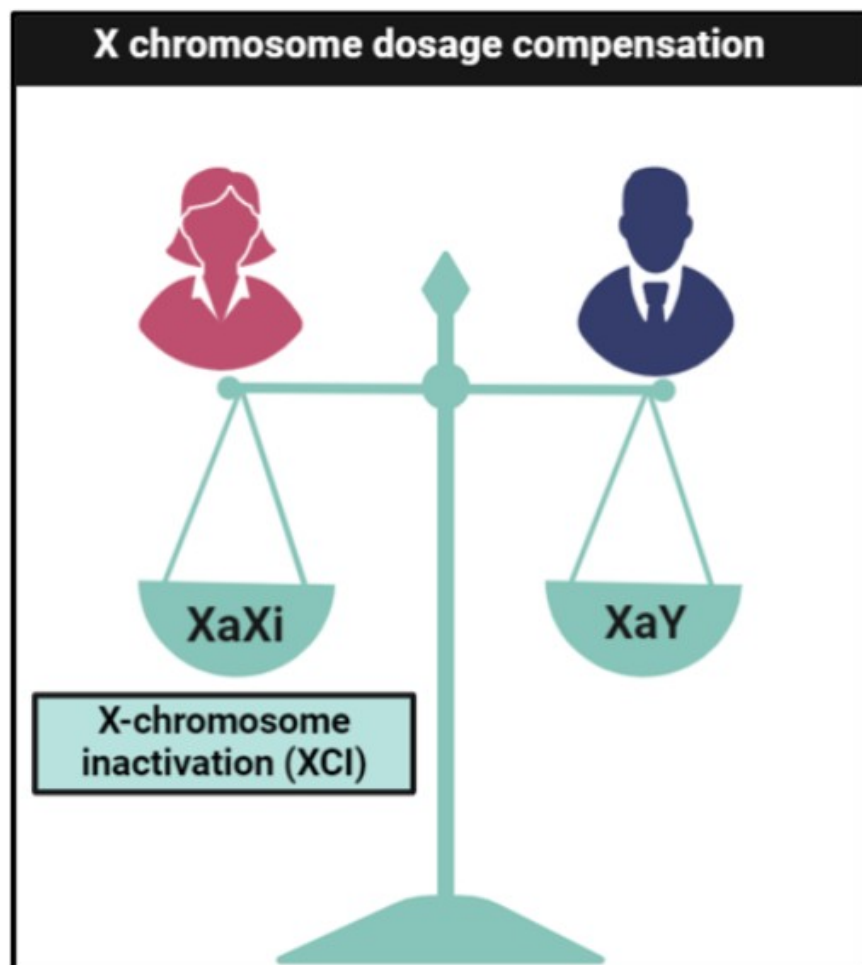
X-chromosome inactivation

Name of the PMRF student

Harshada Jadhav

Required background of the students taught

Genetics
Epigenetics
Molecular Biology



Details of the content of the module

This course focuses on understanding the concepts of gene regulation through the emblematic process of X-chromosome inactivation (XCI). I'll talk about landmark research papers pertaining to the cellular, molecular and physiological understanding of XCI. What future prospects do understanding XCI holds? What questions still stand unanswered? How technological advances in sequencing technologies have accelerated our present understanding of XCI? I'll briefly provide an overview of these sequencing technologies such as single-cell RNA sequencing (sc-RNA seq), ATAC seq, CUT & RUN etc. I'll also cover interesting research articles that explain the implication of understanding XCI in human health and disease. The relevant material for this course are some excellent review articles and research papers, written by pioneering researchers in the field, and will be covered and circulated during the class.

Schedule of the module

Start date: 1st March 2025

End date: 15th August 2025

Timings: 7:30-8:30/9am (Wednesday & Friday)

Recorded/Live lectures, Total: 50hrs (approx)

Class structure:(1)Concept introduction (30mins)

(2) Discussion of research paper (30-40mins)

(3)Assignment/Conclusion/QnA (20-30mins)

Meeting link : Will be shared later

[Link](#)

Contact email ID:

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Form link:

<https://forms.gle/qABVSWDABmGZWZYRA>