



St Xavier's College (Autonomous)
5, Mahapalika Marg, Mumbai-400001

COMPUTATIONAL MODELING OF GASTRIC SMOOTH MUSCLE CELL

A dissertation submitted to St Xavier's College- Autonomous

For the partial fulfilment of the degree of Master of Science in Biotechnology

By

Kush Jayesh Gudka
MSc. (Biotechnology)
2019-2020

Under the guidance of

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Mumbai, Maharashtra 400076

POSTGRADUATE DEPARTMENT OF BIOTECHNOLOGY

St Xavier's College (Autonomous)
5, Mahapalika Marg, Mumbai -400001



CERTIFICATE

This is to certify that **Kush Jayesh Gudka**, student of MSc (Biotechnology) - Semester IV, at the Post Graduate Department of Biotechnology, St. Xavier's College (Autonomous) has submitted the dissertation work titled "**Computational Modeling of Gastric Smooth Muscle Cell**" for the partial fulfilment of the Master's degree in Science in Biotechnology, during the academic year 2019-2020.

Date:

Place:

Karuna Gokarn

Dr. Karuna Gokarn

Head of the Department, PGDBT

POST GRADUATE DEPARTMENT
OF BIOTECHNOLOGY
ST. XAVIER'S COLLEGE,
MUMBAI-400 001.

CERTIFICATE OF COMPLETION

This is to certify that **Kush Jayesh Gudka**, student of MSc (Biotechnology), St. Xavier's College (Autonomous), has completed four months training/Research Project at the **Computational Neurophysiology lab, IIT Bombay** during the academic year 2019-2020.

He has completed the dissertation work entitled "**Computational Modelling of Gastric Smooth Muscle Cell**" for the partial fulfilment of MSc. Biotechnology degree. He has been familiarized with the following techniques during this project:

- a) Modeling paradigms and techniques applicable in the field of Cellular Bioelectricity – Hodgkin Huxley Formalism; Intracellular Calcium dynamics; Working with voltage and current clamp data
- b) Construction, implementation, and analysis of biophysically constrained mathematical models using MATLAB

This carefully written report represents the experiments and literature related to the same carried out by her/him during the period from 1st December 2019 to 31st March 2020.

I found **Kush Jayesh Gudka** to be a sincere and hardworking student. His overall conduct was good.

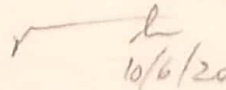


Prof Rohit Manchanda

Date: 10 June 2020

Seal of the Institute

Cannot affix seal owing to lockdown restrictions - I don't have it at my residence



10/6/20