

# Tata Institute of Fundamental Research



## Public Lecture

As part of

### MODEST 20:

## Dense Star Clusters in the Era of Large Surveys

## The Traumatic Youth of the Solar System

Homi Bhabha Auditorium

Feb 5, 2020

1700 – 1830



**Prof. Simon Portegies Zwart**  
Leiden Observatory

The Solar system looks well organised, stable and unaffected by its neighbouring environment. This is only partially true. In particular in the past the Solar system was probably dramatically affected and altered by other nearby stars. This includes possible supernovae and close encounters. These nearby stars have disturbed the gaseous disk around the Sun before the planets formed, and the orbits of the planets at later time. Evidence for this traumatic youth of the Solar system is still visible in the orbits of asteroids and planets.

The recent appearance of the interstellar asteroid 'Oumuamua' indicates that these perturbations from outside are not over, and that this is a continuous process of reshaping and transforming the Solar system as we know it.

In this forensic study, prof. Portegies Zwart (Leiden Observatory), will discuss the evidence of the traumatic youth of the Solar system.

Talk is open to all. Non-TIFR members are requested to carry valid photo ID.

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