



INDIAN STATISTICAL INSTITUTE
Theoretical Statistics and Mathematics Unit, Kolkata

LECTURE

Date: May 31, 2023, Wednesday
Time: 04:15 PM

VENUE:

L-infinity
(5th Floor, A.N. Kolmogorov Bhavan), ISI Kolkata

TITLE:

**Finding rigid domains among Pham--Brieskorn
surfaces in arbitrary characteristic**

SPEAKER:

Ananya Pal
Stat-Math Unit, ISI Kolkata

ABSTRACT:

When k is a field of characteristic 0, for any positive integers a_1, a_2, a_3 , the integral domains of the form

$$k[X_1, X_2, X_3]/(X_1^{a_1} + X_2^{a_2} + X_3^{a_3})$$

are known as Pham--Brieskorn surfaces. When k is a field of arbitrary characteristic p , for any $(a_1, a_2, a_3) \in \mathbb{Z}_{\geq 1}^3$ with $p \nmid \gcd(a_1, a_2, a_3)$, the ring

$$B_{(a_1, a_2, a_3)} := k[X_1, X_2, X_3]/(X_1^{a_1} + X_2^{a_2} + X_3^{a_3})$$

is an integral domain and we refer to it as a Pham--Brieskorn domain.

In this talk we will examine under which condition the domains $B_{(a_1, a_2, a_3)}$ are rigid. This is a joint work with Neena Gupta.

ALL ARE CORDIALLY INVITED