

MATH-IMS Joint Pure Mathematics Colloquium Series The Chinese University of Hong Kong

This Colloquium Series in Pure Mathematics is organized by the Department of Mathematics and the Institute of Mathematical Sciences (IMS) at The Chinese University of Hong Kong. The series focuses on all areas of pure mathematics together with theoretical developments and applications.

Date: February 17, 2023 (Friday)
Time: 1:00PM-2:00PM (Hong Kong Time)
Venue: LSB 222

Symplectic fillings versus Milnor fibers of weighted homogeneous surface singularities

*Speaker: Professor Jongil Park
Seoul National University*

Abstract: One of active research areas in symplectic 4-manifolds is to classify symplectic fillings of certain 3-manifolds equipped with a contact structure. Among them, people have long studied symplectic fillings of the link of a normal surface singularity. On the other hand, algebraic geometers also have studied Milnor fibers as a general fiber of smoothings for a normal surface singularity.

In this talk, I'd like to review what we have obtained on minimal symplectic fillings of Seifert 3-manifolds and Milnor fibers of the corresponding weighted homogeneous surface singularities. The main parts of this work are joint with Hakho Choi.

Bio: Professor Jongil Park did his Ph.D. at Michigan State University in 1996 and has been a professor at Seoul National University since 2004. He is one of the two invited speakers from Korea in ICM 2010. Prof. Park is elected as the new president of the Korean Mathematical Society (KMS) from January 2023.

Prof Park is a world-leading topologist. His revolutionary work on constructing exotic 4-manifolds has stimulated much of the progress in the past 20 years towards the ultimate goal of understanding the (existence of exotic) smooth structures on CP^2 and S^4 (the so-called "smooth Poincaré conjecture"). He has also been highly influential in complex and symplectic geometry.