

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research  
Department of Mathematics*

## GEOMETRY SEMINAR

# A non-vanishing theorem for big divisors on surfaces and its applications

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### **Abstract**

Let  $D$  be a big divisor with  $D^2 > 0$  on a smooth projective surface  $S$  such that  $H^1(S, \mathcal{O}_S(-D)) \neq 0$ . Basing on Miyaoka's vanishing theorem, Sakai proved that there exists an effective divisor  $E$  such that  $(D - E)E \leq 0$ ,  $D - 2E$  is big and  $H^1(S, \mathcal{O}_S(-D + E)) = 0$ . In this talk, I will present a generalization of Sakai's theorem and some applications. This is a joint work with Tong Zhang and Zhixian Zhu.

Date: July 6, 2016 (Wednesday)

Time: 4:00 - 5:00pm

Place: Room 210, Run Run Shaw Bldg., HKU

*All are welcome*