



IUT MATHEMATICS AND STATISTICS RESEARCH SEMINAR  
Presents a Mini-course on  
December 11th, 18th and 25th, 2023

**Speaker:**

Byungdo Park  
Chungbuk National University  
South Korea

**Minicourse Title:**

*Differential Cohomology and Gerbes:  
An Introduction to Higher Differential Geometry*

**Abstract.** *Differential cohomology is a topic that has been attracting considerable interest. Many interesting applications in mathematics and physics have been known; description of WZW terms, string structures, study of conformal immersions, classifications of Ramond-Ramond fields to list a few, and it is also an interesting application of the theory of infinity categories. I will try to give an audience-friendly overview of differential cohomology and a classification of higher line bundles (a. k. a.  $U(1)$ -banded gerbes) with connection. I will start from scratch and assume only some basic differential geometry and algebraic topology so that it would be accessible to most graduate students.*

**Time:** Mondays 4pm-4:50pm Tehran Time (21:30 - 22:20 Seoul time)

**Dates:** Session I : Dec. 11th, 2023 (20 Azar, 1402)  
Session II : Dec. 18th, 2023 (27 Azar, 1402)  
Session III: Dec. 25th, 2023 (4 Dey, 1402)

**Venue:** <https://meet.google.com/dmw-phqd-bob>

