

**COLLOQUIUM****m-shifted symplectic n-groupoid, with classifying space BG as an example****Professor Chenchang Zhu**Mathematisches Institut, Georg-August-Universität Göttingen,
Germany**Abstract**

It is probably well known to people who know it well that BG carries a sort of symplectic structure, if the Lie algebra of G is quadratic Lie algebra. In this talk, we explore the concept of m-shifted symplectic n-groupoids to realise this (2-shift) symplectic structure in concrete formulas and show the equivalences between them.

In the infinite dimensional models (2-group, double-group), Segal's symplectic form on based loop groups turns out to be additionally multiplicative or almost so. These models are equivalent to a finite dimensional model with Cartan 3-form and Karshon-Weinstein 2-form via Morita Equivalence. All these forms give rise to the first Pontryagin class on BG . Moreover, they are related to the original invariant pairing on the Lie algebra through an explicit integration and Van Est procedure. Finally, as you might have guessed, the associated String group $BString(G)$ may be seen as a prequantization of this symplectic structure. From the math-physics point of view, what is behind is the Chern-Simons sigma model. This is a joint work in progress with Miquel Cueca Ten.

Date:	November 15, 2021 (Monday)
Time:	4:00 - 5:00 pm (Hong Kong Time)
Venue:	ZOOM: https://hku.zoom.us/j/ Meeting ID: 543 4482 374

All are welcome