Contribution ID: **40** Type: **not specified**

# Universes as Bigdata: from Geometry, to Physics, to Machine-Learning

*Thursday, 17 December 2020 09:00 (1 hour)*

We briefly overview how historically string theory led theoretical physics first to algebraic/differential geometry, and then to computational geometry, and now to data science.
Using the Calabi-Yau landscape - accumulated by the collaboration of physicists, mathematicians and computer scientists over the last 4 decades - as a starting-point and concrete playground, we then launch to review our recent programme in machine-learning mathematical structures and address the tantalizing question of how AI helps doing mathematics, ranging from geometry, to representation theory, to combinatorics, to number theory.

**Presenter:** Prof. HE, Yang-Hui (Merton Coll., U. of Oxford)

**Session Classification:** Invited talks