



Contribution ID: 207

Type: **Talk**

## Exploring Generative Networks for Manifolds with Non-Trivial Topology

*Monday 29 July 2024 12:15 (20 minutes)*

The expressive power of neural networks in modeling complex distributions is desirable to bypass topological freezing and critical slowing down in simulations of lattice field theory. Some approaches suffer from problems with topology, which may lead to some classes of configurations not being generated. In this talk, I will present a novel generative approach inspired by a model previously introduced in the ML community (GFlowNets) and simulate triple ring models and lattice  $\phi^4$  model to demonstrate the capabilities of the method to solve issues connected with ergodicity.

**Primary author:** CHEN, Shiyang (Swansea university)

**Co-authors:** LUCINI, Biagio (Swansea University); AARTS, Gert (Swansea University)

**Presenter:** CHEN, Shiyang (Swansea university)

**Session Classification:** Algorithms and artificial intelligence

**Track Classification:** Algorithms and Artificial Intelligence