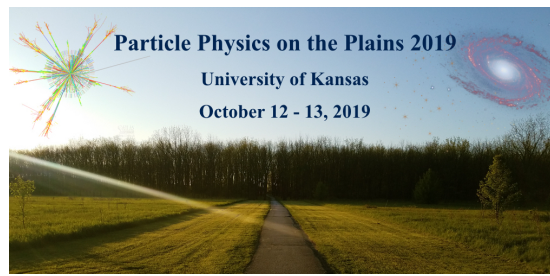


## Particle Physics on the Plains 2019



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# Electroweak Symmetry Non-restoration in Models with New Fermions

*Saturday 12 October 2019 09:40 (20 minutes)*

In this talk, I am going to explore the possibility that electroweak phase transition may never occur in the early universe. It is known that the symmetries of some scalar models are not restored at high temperature, or some symmetries that are unbroken at low temperature becomes broken at higher temperature. These phenomena are known as Symmetry Non-restoration (SNR) and Inverse Symmetry Breaking (ISB) respectively. In this talk, I will identify the models with new fermions that has unstored electroweak symmetry at high temperature, and discuss their phenomenological signatures in cosmology and neutrino experiments.

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**Session Classification:** Phase Transitions/Models