



Contribution ID: 559

Type: **Oral presentation**

## Breaking the gauge symmetry in lattice gauge-invariant models.

*Wednesday 28 July 2021 06:30 (15 minutes)*

We consider the role that gauge symmetry breaking terms play on the continuum limit of gauge theories in three dimensions.

As a paradigmatic example we consider scalar electrodynamics in which  $N_f$  complex scalar fields interact with a  $U(1)$  gauge field. We discuss under which conditions a mass term destabilizes the critical behavior (continuum limit) of the gauge-invariant theory and the nature of the asymptotic continuum limit observed once the gauge-breaking term is introduced.

**Primary author:** PELISSETTO, Andrea (Sapienza Universita' di Roma)

**Co-authors:** Dr BONATI, Claudio (INFN sez. Pisa and University of Pisa); VICARI, Ettore (University of Pisa and INFN)

**Presenter:** PELISSETTO, Andrea (Sapienza Universita' di Roma)

**Session Classification:** Theoretical developments and applications beyond particle physics

**Track Classification:** Theoretical developments and applications beyond particle physics