



Contribution ID: 171

Type: **not specified**

## Fabiana De Cesare "Disturbing news about the 2+epsilon expansion"

*Thursday, November 13, 2025 2:00 PM (1 hour)*

The  $O(N)$  Non-Linear Sigma Model (NLSM) in  $d=2+\epsilon$  has long been conjectured to describe the same conformal field theory as the Wilson-Fisher  $O(N)$  fixed point obtained from the  $(\phi^2)^2$  model in  $d=4-\epsilon$ . In this talk, we put this conjecture into question, building on the recent observation [Jones,2024] that the NLSM CFT possesses a protected operator with dimension  $N-1$ , which is instead absent in the WF  $O(N)$  CFT. We propose several scenarios that may explain this discrepancy.