

Texas Tech University. Pure Mathematics Colloquium.
Current Advances in Mathematics.

Spontaneous symmetry breaking, a view from derived geometry

OWEN GWILLIAM

University of Massachusetts, Amherst

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On Zoom. Time: 4:00pm–5:00pm (Central time).

ABSTRACT. We will give an overview of how physics and homological algebra have met in the setting of gauge theory, with an emphasis on how the new subject of derived geometry provides a clarifying framework. The talk's concrete aim is to explain the Higgs mechanism as a case study. Our approach will be low-tech and will emphasize the motivations; anyone familiar with notions like vector bundle and cochain complex should be able to follow. (This talk is based on a paper with Chris Elliott.)