



HARVARD UNIVERSITY  
17 Oxford Street  
Cambridge, MA 02138

# Mathematical Picture Language Seminar

Tuesday, March 8, at **9:30** a.m. EST



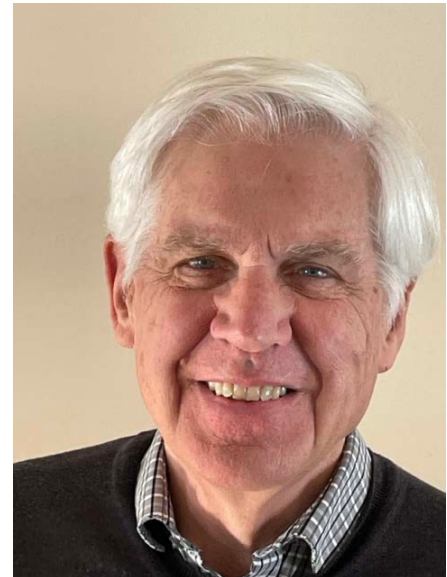
Zoom QR Code & Link:

<https://harvard.zoom.us/j/779283357?pwd=MitXVm1pYUJlVzZqT3lwV2pCT1ZUQTog>

## Continuous symmetry breaking along the Nishimori line

**Thomas Spencer**

Institute for Advanced Study



**Abstract:** The Nishimori line (NL) describes a special one parameter family of disordered spin models which are invariant under a gauge transformation acting jointly on the spins and the disorder. For group valued spins such, as  $SO(2)$  and  $SU(2)$ , we prove that there is long range order in 3 or more dimensions along the NL.

The proof relies on work of Abbe, Massoulié, Montanari, Sly and Srivastava on group synchronization. It does not use reflection positivity. This is joint work with Christophe Garban, arXiv:2109.01617v2.

<https://mathpicture.fas.harvard.edu/seminar>