

# Q-MATH

## seminar

### THE FRIEDRICHS-LEE HAMILTONIAN: SINGULAR COUPLING, RENORMALIZATION, AND SPECTRAL PROPERTIES

**SPEAKER:** Davide Lonigro (Università degli studi di Bari, Italy)

**DATE:** Wednesday, 1 April 2020 - 12:00

**VENUE:** Online Seminar

**ABSTRACT:** In this talk we will provide an overview on the properties of the Friedrichs-Lee Hamiltonian. After showing that the model can describe the single-excitation interaction between a structured boson field and a family of two-level systems, we will discuss its extension to a larger class of couplings via a domain change; this procedure can be interpreted as an operator-theoretical renormalization.

We will finally characterize its spectral properties by studying its spectral decomposition; in particular, we will briefly discuss the insurgence of bound states in the continuum (BICs) for a Friedrichs-Lee model whose inner Hamiltonian has an absolutely continuous spectrum.

To access the online stream use the link:  
<https://eu.bbcollab.com/guest/e0428ec52d77425b98249a19864b97aa> text