**Talk announcement**

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16:00, S2 Z74

# A new mixed approach for discretizing Kirchhoff-Love plates

In this talk, we introduce a new mixed variational formulation of a Kirchhoff-Love plate. The plate is considered to be clamped, simply supported and free on different parts of the boundary. The new formulation satisfies Brezzi's conditions and is equivalent to the original primal variational problem. This nice properties come at the cost of a nonstandard Sobolev space. However, we provide a Helmholtz decomposition of this space, which allows us to derive an equivalent decoupled formulation.

Based on the Helmholtz decomposition, we can derive in a natural way families of finite elements for triangular and quadrilateral meshes and also isogeometric discretizations.

Finally, we show first numerical experiments.