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# SEMINARIO SANMoMA-GRADUADOS

Centro de Investigación en Ingeniería Matemática, CI<sup>2</sup>MA, UDEC

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*Expositor:*

NITESH VERMA\*

*Título de la charla:*

VIRTUAL ELEMENT METHODS FOR THE THREE-FIELD FORMULATION OF  
TIME-DEPENDENT LINEAR POROELASTICITY.

*Lugar:*

HALL DEL CI<sup>2</sup>MA

*Fecha:*

MIÉRCOLES 13 DE NOVIEMBRE. 15:30 HORAS<sup>†</sup>

## Resumen

In this seminar, I would like to present a virtual element discretization for the numerical approximation of the three-field formulation for poroelasticity introduced in [Oyarzúa and Ruiz-Baier, SINUM 54(5) (2016), 2951–2973] with an extension to the case of non-steady problem. An appropriate poroelastic projection operator has been introduced to assist in deriving energy bounds for the time-dependent discrete problem, and optimal a priori error estimates have been established. Numerical verification of the accuracy of the method is conducted through a set of computational tests.

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