

## Oradores Convidados

### [Palestras dia 19.](#) [Palestras dia 20.](#) [Actividades](#)

2º Dia (dia 20 de Novembro 9h30-12h30 e 14h30-18h30)

TEMA 2 "Relatividade Geral no século XXI"

Dedicado a investigadores e outro público interessado.

**LOCAL: Anfiteatro 0.07 (Departamento de Matemática, Faculdade de Ciências da Universidade do Porto, Rua do Campo Alegre s/n, 4169-0097 Porto)**

## Relativistic Elasticity: recent developments

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The theory of elasticity in the context of general relativity was developed in the mid twentieth century. The need for such a theory came in the late 1950s with Weber's bar antenna for gravitational waves in order to explain how these waves interact with elastic solids. In 1973, a fully developed nonlinear theory of elasticity adapted to general relativity was given in a paper by Carter and Quintana, which, to a certain extent, remains as the standard reference of this theory. In this paper the concept of elasticity is formulated within the framework of general relativity. In this talk, the theory of elastic matter within the context of general relativity is presented, following the formulation of Carter and Quintana. The latest developments within this theory will be discussed; in particular, recent work on conformally flat spacetimes associated to an elastic stress energy tensor will be analysed.