DOCTORAL PROGRAMME IN MATHEMATICAL SCIENCES

In the framework of the activities of the PhD programme in Mathematical Sciences

Cristina Tarsi
University of Milan

will offer a PhD course on

A tour on Kirchhoff type problems

Abstract

The standard linear wave equation was derived first by d'Alambert in 1747 and Euler 1748. In 1876 Kirchhoff proposed a new model for free vibrations of elastic strings, which takes into account modifications in length of the string produced by transversal vibrations. Later on, in 1945 Carrier developed a more rigorous approach, as well as Narasimha in 1968. The nowadays called Kirchhoff string equation and its generalizations have been widely studied since the work of P.-L. Lions (1978), where an abstract functional framework was introduced.
This course will focus on the stationary elliptic version of Kirchhoff type problems, with a variational approach. We will mainly review the former existence and multiplicity results for equations with critical growth, highlighting the role of the nonlocal nature of the equations with respect to the local ones. We will consider both the cases of bounded and unbounded domains.

Scheduling

The course will be held via Zoom platform

from April 19 to May 13, 2021

Introduction: Monday 19 April from **9:00 to 10:00**

Subsequent lessons:
from 9:00 to 11:00,
in the following days: **21**, **26**, **28** April and **4**, **6**, **11**, **13** May

The Zoom link will be provided directly by Prof. Tarsi