

EDPs Seminar

Speaker: Kaye Silva (Universidade Federal de Goiás, Brazil)

Title: The fibering method applied to the level sets of a family of functionals.

Abstract: Given an one-parameter family of C^1 -functionals, $\Phi_\mu : X \rightarrow \mathbb{R}$, defined on an uniformly convex Banach space X , we describe a method that permit us find critical points of Φ_μ at some energy level $c \in \mathbb{R}$. In fact, we show the existence of a sequence $\mu(n, c)$, $n \in \mathbb{N}$, such that $\Phi_{\mu(n, c)}$ has a critical level at $c \in \mathbb{R}$, for all $n \in \mathbb{N}$. Moreover, we show some good properties of the curves $\mu(n, c)$, with respect to c (for example, they are Lipschitz), and as a consequence of this analysis, we recover many know results on the literature concerning bifurcations of elliptic partial differential equations. Furthermore we prove new results for a large class of elliptic partial differential equations, which includes, for example, Ouyang, Lane-Emden, Concave-Convex, Kirchhoff and Schrödinger-Bopp-Podolsky type equations.

Zoom: <https://uchile.zoom.us/j/88154383842?pwd=NXc5ZmQxdXFjQmRZL2c0MENQeWtkUT09>

Meeting ID: 881 5438 3842

Passcode: 017267

Thursday (016/12) at 4:15 pm (Chilean time).