



Mercoledì 25 Maggio 2011 – ore 15.00 – Sala 34 (IV piano)
Dipartimento di Scienze Statistiche, Sapienza Università di Roma

Speaker: Samantha Leorato, Università di Roma “Tor Vergata”

Titolo: On a generalization of Jensen inequality for convex functionals

Abstract: Let $f : \mathcal{X} \mapsto \mathbb{R}$ be a convex mapping and \mathcal{X} a Hilbert space. The following refinement of Jensen’s inequality is proved: for every convex subsets $A, B \subset \mathcal{X}$ such that $E(X | X \in A) = E(X | X \in B)$ and $B \subseteq A$, it holds $E(f(X) | X \in A) \geq E(f(X) | X \in B)$. Expectations of Hilbert-space-valued random elements are defined by means of the Pettis integrals. Our result generalizes a result of S. Karlin, A. Novikoff, who derived it for functions with one argument. The inverse implication is also true if P is an absolutely continuous probability measure. A convexity criterion based on the Jensen-type inequalities follows.