



# Seminario IMAC sobre Estructuras algebraicas y teoría de códigos correctores de errores

**Conferencia a cargo de Zeinab Akhlaghi**

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## **Non-commuting graphs related to the groups**

**Abstract:** Let  $G$  be a non-abelian finite group and let  $Z(G)$  be the center of  $G$ . Associate a graph  $\Gamma(G)$  (called non-commuting graph of  $G$ ) with  $G$  as follows: Take  $G \setminus Z(G)$  as the vertices of  $\Gamma(G)$  and join two distinct vertices  $x$  and  $y$ , whenever  $xy \neq yx$ . In this talk we state how the graph theoretical properties of  $\Gamma(G)$  can effect on the group theoretical properties of  $G$  and we want to see that for which finite simple group  $G$  and finite group  $H$ , the graph isomorphism  $\Gamma(G) \cong \Gamma(H)$  implies the group isomorphism  $G \cong H$ .

**Fecha: 2 de marzo de 2011, a las 12:30 horas.**  
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