SEMINARIO

"**PROFESOR FÉLIX MONDÉJAR**"

DPTO. DE MATEMÁTICA APLICADA Y ESTADÍSTICA

CONFERENCIA

"On the characterization of periodic solutions of periodic diference equations"

PONENTE: **ZIYAD AL-SHARAWI**

Sultan Qaboos University

FECHA : VIERNES, 22 de Junio a las 12:00 h

LUGAR: Sala de I+D+I del Dpto de Matemática Aplicada y Estadística. (despacho B028), en la P. Baja del C. Muralla del Mar

ABSTRACT:

Fixed points of the iterates of a function f are called cycles, or periodic solutions of the difference equation $x_{n+1} = f(x_n)$. Fixed points (or steady states) as well as periodic solutions play a significant role in understanding the dynamics of difference equations in general. In a more general setting, one can consider the nonautonomous equation $x_{n+1} = f(n; x_n)$. In this talk, we consider the p-periodic equation $x_{n+1} = f(n \bmod p; x_n)$, which can be used to model certain populations in periodically fluctuating environments. Characterizing periodic solutions of $x_{n+1} = f(n \bmod p; x_n)$ has been a hot topic of research in the past few years. However, some questions remain unanswered. Here, we give some recent results and discuss some unanswered questions about this problem.