UCF DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER SCEINCE

Spring 2015 Seminar Series

Presented by the ECE Division

EXO-ATMOSPHERIC INTERCEPTION

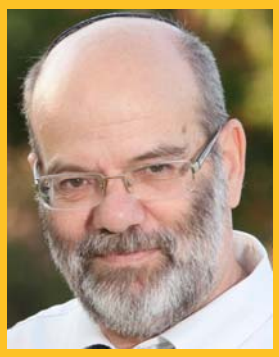
MONDAY JANUARY 12, 2015

10:30 AM – HEC 356

Exo-Atmospheric interception is divided into three phases: boost, mid-course, and terminal guidance. In this talk we will present a novel terminal and mid-course guidance law that guarantees interception against a maneuvering target. This guidance law is based on differential games with a novel quartic time-to-go polynomial equation. Since the polynomial coefficients are functions of initial conditions, the study of this polynomial is essential to the understanding of the ability of an interceptor to hit a target in a “first pass”. The lecture will focus on non-linear guidance laws and on jump phenomenon with respect to initial conditions (bifurcation).

DR. SHAUL GUTMAN

Technion-Israel Institute of Technology



Shaul Gutman was born in Israel (at that time Palestine) on 1945. He studied Aerospace Engineering at the Technion-Israel Institute of Technology during 1963-1967. He then served for 3 years at the IDF-Israel Defense Forces. He then worked a year at IAI-Israel Aerospace Industries, before leaving for Ph.D. studies at the University of California, Berkeley (1972-1975). During 1975-1976 he was with NASA Ames as a Post.Doc. Fellow. At this point he returned to Israel and worked for one year at Rafael-Israel Armament Authorities. Since then he has been with the Technion as a Professor. During 1992-1996 he served as a member of the Israeli Parliament (Knesset).

Hosted by: Dr. Zhihua Qu