The Iby and Aladar Fleischman
Faculty of Engineering
Department of Materials Science and Engineering

אוניברסיטת תל-אביב
TEL AVIV UNIVERSITY

הפקולטה להנדסה
ע"ש איבי ואלדר פליישמן
המחלקה למדע והנדסה של חומרים

You are cordially invited to attend this seminar to be held on

Wednesday, November 18th, 16:00
Room 103, Engineering Class (Kitot) Building

R&D activities in Elbit-Cyclone with Additive Manufacturing/3D Printing of metal parts for aerospace application

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In the first part of this talk, I'll present the main reason of why 3D printing is called today The 3rd industrial revolution and mark a lot of challenges with additive manufacturing (AM) implementation in aerospace and another high end industries, sometimes due to the lack of peer-to-peer international standardization and/or a fundamental technological hurdle such as thermal stress induced crack propagation, crevice corrosion associated with surface roughness and morphology, chemical composition drift due to the sublimation of "low Tmelt" element during the interaction with high energy source such as electron beam or laser etc.

In the second part, I'll share our in fact progress with AM of different parts for military and commercial platform with emphasis on the materials and processing aspects for Ti-6Al-4V, AlSi10Mg & 15-5 PH Stainless steel alloys. So called Design Allowable (DA) approach will be described as a main current in use principle of the whole processing certification in the aerospace industry for both platform manufacturer and its n-tier supplier.

Biosketch

Oleg Naigertsik is a technologies development manager in Elbit-Cylcone. He conducted his M.Sc. research in Chemistry faculty of Kharkov State University (former USSR) dealing with P-T parameter optimization in synthesis of artificial diamonds catalyzed by Fe and Co nano powder. With Elbit for the last 12 years he started as a chief technologist in Operation & Technologies div., later on as a failure analysis unit manager in Aerospace div. and right now in his current position with Cyclone div. He has 2 SU and 4 US patents along with 1 PCT filing and 2 trade secret in different areas of materials and processing engineering such as NIR photolithography, sol-gel microcapsulation of solvent soluble active ingredient, low pressure DC assisted plasma treatment of eutectic and near eutectic solder alloy, z-CTE matching of raw material for Printed Circuit Board, low cost technique for decap of Integrated Circuit etc.