Eli Gordon, Ph.D. in Physical Chemistry
SOREQ – Nuclear Reseach Center

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Work Experience

07/2018 – Present Soreq – Nuclear Research Center, Yavne, Israel
R&D Fields: Thin films, Particle – Surface interactions, Radiation Effects on Materials.

2002 – 06/2018 Rafael – Advanced Defence Systems LTD, Haifa, Israel.
Work in a unit which performs multidisciplinary R&D and manufacture its own developed products.
During my work at Rafael I was conducting and leading several R&D multidiciplinary projects.
R&D Fields: Vacuum thechnology, vacuum devices (for example: X-ray tubes and more). Materials and cleaning process for improving vacuum levels. Thin films. Surface erosion, Evaporation techniques. Implantation. Sputtering. Atomic and molecular beam - surface interactions. Getter materials and adsorption. Metal-Ceramic connections, ceramic metalizing. Thick films application (metallizing paste / paint). Paint development.

1998 – 2001 Tutoring in the Technion, Faculty of Chemistry, Physical chemistry student laboratory course and Thermodynamics frontal course.

1994 to 1995 Tutoring in the Hebrew University, Science Faculty, General chemistry student laboratory course.

Education

1998 – 2002 Ph.D. Degree in Chemistry, Technion – Israel Institute of Technology, Haifa, Israel, Department of Physical Chemistry.
Thesis Topic: "Collisions of Fullerenes with bare and overlayer coated surfaces". The research investigated: (a) Phenomena of cluster scattering from surfaces, (b) Comparison of 1-10 keV C_{60}^- molecular beam to atomic Cs^+ atomic beam as primary beam source for SIMS (Secondary Ion Mass Spectrometry) analysis of biological targets - in order to reduce frgmentaion of emitted, analyzed molecules.

1994 to 1997 M.Sc. Degree in chemistry. Hebrew University of Jerusalem, Department of Physical Chemistry.
Thesis topic: "Femtosecond Dynamics of photochemical dissociation reaction". Investigating the effect of symmetry breaking on vibrational coherence transfer in impulsive photolysis of trihalide ions: I_3^- vs. I_2Br^-.

1990 to 1993 B.Sc. Degree in chemistry (cum laude). Hebrew University of Jerusalem, Jerusalem, Israel.

Professional Experience and Expertise

- High Vacuum science and technology.
- Thin films: Evaporation, Modification, Analysis.
- Adsorption of gases: getters.
- Metal-ceramic bonding.
- Thick film sintering.
- Secondary Ion Mass Spectrometry (SIMS) and sputtering.
- Analytical equipment for analysis in vacuum: Quadrupole Mass Spectrometers, energy analyzers, auger spectrometry.
- Ion optics. Development and operation of ion and electron guns.
- Scanning Electron Microscopy (SEM).
- Atomic Force Microscopy (AFM).
- Lasers, Optical systems and optical components: Q-Switch, Interferometers, Pockel's cells, optical filters, monochromators, polarizers, photodiodes, photo- multipliers, doubling crystals and more.

Membership in Professional Societies

- American Vacuum Society (AVS): 2004-2006
- The International Union for Vacuum Science, Technique and Applications (IUVSTA): 2007-2010