Surface Engineering - Applied Research and Industrial Applications

Room Sunrise - Session G5

Atmospheric Plasma Applications

Moderators: Hana Barankova, Uppsala University, Sweden, Sang-Yul Lee, Korea Aerospace University

8:00am **G5-1 Radiofrequency Cold Plasma Jets Generated at Atmospheric Pressure: from Principles to Applications**, ***Gheorghe Dinescu***, *E Ionita, M Ionita, M Teodorescu, V Marascu, A Lazea-Stoyanova,* National Institute for Lasers, Plasma and Radiation Physics, Romania **INVITED**

We present the principles and various discharge configurations for producing cold radiofrequency plasmas at atmospheric pressure, like plasma jet sources of DBD (Dielectric Barrier Discharges) and DBE (Discharges with Bare Electrodes) types and their utilization in engineering, biomedicine, environment, and nanotechnology. The applicative potential of those plasmas is exemplified with: polymer surface modification in order to control the wettability, carbon cleaning and silicon etching, patterning the cells growth on surface, promoting the adhesion of dental prostheses, operation in liquid phase for chemical decomposition and functionalization of nanomaterials, and synthesis of metallic nanoparticles.

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