Plasma Decontamination of Surfaces, Daphne Pappas, PhD

Abstract: Plasma medicine is a new field of research that combines gas plasma chemistry and physics, biology and life science. In the past decade, extensive research has been conducted to understand the fundamentals of the interactions between plasmas and various microorganisms such as bacteria, fungi and viruses. Plasma application for the treatment of medical materials, devices and personal protective equipment (PPE) is an important subject of research and commercialization in the fight against pathogens. In this talk, the effect of plasma activated water and vapor produced under atmospheric pressure conditions on a variety of surfaces will be presented.

Bio: Dr. Daphne Pappas comes from a background in plasma technology and surface engineering. Since October of 2018, she holds the position of R&D and Applications Manager at Plasmatreat USA. Prior to joining Plasmatreat, Daphne worked in the semiconductor industry at Lam Research Corporation and for a start-up company. Aside from her experience in industry, Daphne conducted research for the DoD for 7 years and served as Adjunct Assistant Professor at the Department of Chemical and Biomolecular Engineering at Case Western Reserve University.

Daphne holds a Ph.D. in Chemical Engineering and a Masters degree in Materials Science. She is the author of more than 50 peer-reviewed journal articles and technical reports and is listed as co-inventor on 3 US patents. Her research interests involve plasma-enhanced chemical vapor deposition (PECVD) of thin films using atmospheric and low pressure plasmas, surface characterization techniques and study of plasma-surface interactions.

She currently serves as Chair of the Plasma Applications group of the Northern California Chapter of the American Vacuum Society.