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Atomic Force Microscope Investigations of Biofilm-Forming Bacterial Cells Treated with Gas Discharge Plasmas[1] KURT VANDERVOORT, ANDREW RENSHAW, NINA ABRAMZON, Physics Department, California State Polytechnic University, Pomona, GRACIELA BRELLES-MARINO, Biological Sciences Department, California State Polytechnic University, Pomona — We present investigations of biofilm-forming bacteria before and after treatment from gas discharge plasmas. Gas discharge plasmas represent a way to inactivate bacteria under conditions where conventional disinfection methods are often ineffective. These conditions involve bacteria in biofilm communities, where cooperative interactions between cells make organisms less susceptible to standard killing methods. *Chromobacterium violaceum* were imaged before and after plasma treatment using an atomic force microscope (AFM). After 5 min. plasma treatment, 90% of cells were inactivated, that is, transformed to non-culturable cells. Results for cell surface morphology and micromechanical properties for plasma treatments lasting from 5 to 60 minutes were obtained and will be presented.

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Kurt Vandervoort
Physics Department, California State Polytechnic University, Pomona

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