

**P 10 Hauptvortrag (P. Favia)**

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Raum: HU 3038

**Hauptvortrag**

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**Low Temperature Plasma Processes for Biomedical Applications** — •PIETRO FAVIA — Department of Chemistry. University of Bari, Via Orabona 4, 70126 Bari, Italy

Substrates can have their surface composition, energy, topography and cell adhesive properties tuned with low temperature plasma processes; these processes are investigated since years, with the aim of obtaining surfaces compatible with different biological environment for many different biomedical applications. For example, cell adhesive surfaces can be produced by means of plasma processes, by properly combining PE-CVD processes of functional coatings and conventional immobilization reaction of biomolecules such as RGD peptides and saccharides; on the other hand cell/protein repulsive (non fouling) surfaces can be also be produced by means of plasma processes, and synthesized on materials (and devices) where the adhesion of proteins and of other biological systems has to be discouraged. Many other surfaces of biomedical interest can be synthesized by means of plasma deposition and treatments process, with micrometric (area) and nanometric (thickness) accuracy, aimed to drive the biological response of material surfaces at micro metric scale. Micro lithographic processes are possible, that use plasma processes, able to produce patterned surfaces, where "cell-adhesive" tracks are alternated to non-adhesive domains; such surfaces are of tremendous interest nowadays for Cell and Tissue Engineering procedures. This talk will describe shortly surfaces that are nowadays of interest for biomedical applications.