



NANOSTRUCTURED SURFACES FOR VARIABLE APPLICATIONS

RESEARCH/TECHNOLOGY INTRODUCTION

Usage of most of materials is limited due their surface properties despite of their excellent properties. Therefore we develop methods to improve the surface properties of materials and then extent their other applications. We employ the physical or chemical approaches or their combination to change the surface chemistry and charge. It can lead to the subsequent better adhesion of:

- (i) new chemical compounds,
 - (ii) metal nanostructures,
 - (iii) cells;
- or inhibition of growth:
- (iv) bacteria or
 - (v) algae.

These materials can be employed in many fields of common life, industry, medicine, etc.

POTENTIAL USERS

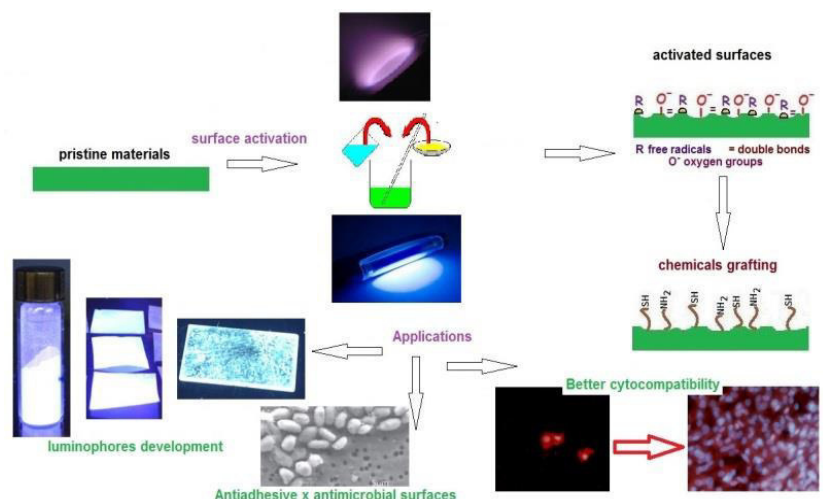
These materials of “newly developed” surface properties can be applied in many fields of common life, industry, medicine, optics, electronics, etc. They can be used for development of new luminophores, materials for tissue engineering field, for materials with antimicrobial effect, etc.

ADVANCEMENT OF TECHNOLOGY AND MARKET APPLICATION

Currently the plasma treatment is used, but it requires the plasma equipment. We try to develop **new approaches, cheaper and much available**. Our methodology is fast, easy and low on instrument equipment. Our technology provides the successful activation and modification of material surfaces.

ADDITIONAL INFORMATION

Surface modification of materials and usage:



Centre for Natural
Sciences
and Technologies

J. E. Purkyně University in Ústí n. L.
Faculty of Science
Pasteurova 3632/15
400 96 Ústí nad Labem

doc. Ing. Zdeňka Kolská Ph.D.
E-mail: zdenka.kolska@ujep.cz
Tel.: +420 475 286 643
Room: 2.19

UNIVERZITA J. E. PURKYNĚ V ÚSTÍ NAD LABEM
Přírodovědecká fakulta