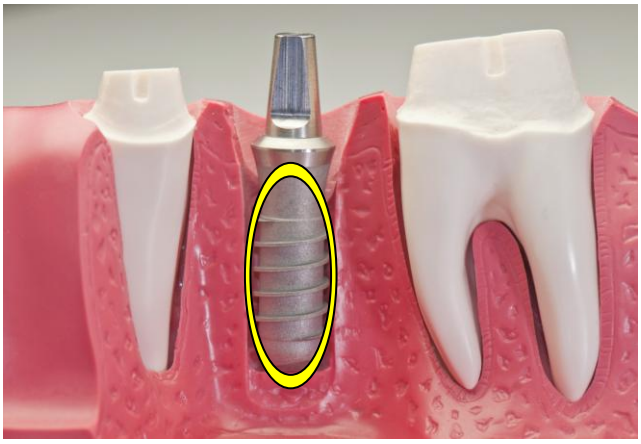

New biocomposite-based coating for dental implants with improved osseointegration properties

Main advantage: biocompatibility improvement related to the adjacent bone area (the acceleration of the osseointegration process)

Reducing the wear rate at bone-implant interface

Material: hydroxyapatite/titanium biocomposite. There are 2 patents in due evaluation (to be released in 2013) that have been awarded at invention/innovation international fairs: **PROINVENT 2012** Cluj-Napoca, Romania with **silver medal** and **iENA 2012** Nuremberg, Germany with **bronze medal**.

Characteristics:
nanostructured coating
Young modulus E = 20…50 GPa
Coating thickness = 10^2 nm ….(1-10) μm
Roughness Ra = max. 5…10 μm
Porosity P = max. 2…6%
Microhardness $HV_{0,5}$ = max. 250…350
Toughness = max. 0,5…0,7 [MPa $m^{1/2}$]

Possible coating technologies:
- pulsed laser deposition (PLD)
- matrix-assisted pulsed laser evaporation (MAPLE)

or similar ones, in protected atmosphere, able to provide the above mentioned characteristics for the processed coatings.