

Nano-encapsulation properties and withstanding biological environment of the modified natural rubber

Rodney Marcelo do Nascimento
University of São Paulo, Brazil

Hybrid Natural Rubber NR-X is a potentially attractive material for biomedical applications due to its flexibility, renewability and biocompatibility. This lecture will describe the nano-encapsulation properties of the Natural Rubber through the incorporation of calcium phosphate particles into a polymeric matrix as well as the stability

of the material in biological environment. CaP crystalline phases were synthesized by the sol-gel method and the polymeric matrices were produced using natural rubber extracted from latex of the *Hevea brasiliensis*. The organic-inorganic interface features of the NR-CaP were investigated by Vibrational and Electronic spectroscopies techniques. Polymeric nano-encapsulation properties and withstanding biological environment of the NR have emerged as a promising hybrid material for medical applications.

rodneymn@ifsc.usp.br