5007-65-45 **Alexandre Fioravante de Siqueira*** (siqueiraaf@gmail.com), Dep de Fis, Qui e Bio, Univ Estadual Paulista, Rua Roberto Simonsen, 305, Presidente Prudente, Sao Paulo 19060-900, Brazil, and **Flavio Camargo Cabrera**, **Aylton Pagamisse** and **Aldo Eloizo Job**. *Segmentation of images obtained by samples of natural rubber with gold nanoparticles: comparison between Multi-Otsu thresholding and a-trous Wavelets.*

This study aims to choose the best technique, between a-trous wavelet and Multi-Otsu method, to characterization and recognition of patterns formed by gold nanoparticles incorpored into natural rubber samples. Latex was collected from different rubber trees of RRIM 600 clones. The formation of AuNPs was achieved by direct reaction of the natural rubber membrane in a solution of gold chloride, where the synthesis was realized at 80C for periods of 6, 9, 15, 30, 60 and 120 minutes of immersion. The natural rubber membranes with gold nanoparticles were used in chemistry analysis and ultrasensitive detection by Raman spectroscopy, constructing flexible SERS and SERRS substrates, as well as in the study of influence of natural rubber/Au nanoparticle membranes on the physiology of Leishmania braziliensis protozoans. Both techniques were applied in images of natural rubber samples with gold nanoparticles, and the method that leads to better results was chosen to characterize the nanoparticles in the images. Natural rubber membranes were fabricated by casting latex stabilized with 2% of ammonium hydroxide on glass and annealing for 10 hours at 65° (Received April 02, 2013)