Abstract

In Brazil, because our population is constantly exposed to solar rays, an increase has been documented in cutaneous lesions. ATONUS has developed a computerized system for acquiring, storing and analyzing the images of the human epidermis.

The product developed by ATONUS assists professionals in the healthcare industry to diagnose cutaneous lesions, especially skin cancer.

This system enables professionals to transfer digital images through the internet to other specialists in the medical field. Our hope is that by sharing these images the degree of subjectivity in the analysis of cutaneous lesions are decreased by obtaining other opinions.

We suggest the creation of a website that is specific to professionals in the medical field, were they can contribute debate and assist in the area of Pathology.

This project is not only the development of the equipment but also a method that can be adopted by institutions to solve health related issues by the remote exchange of information, texts and images known as telemedicine.

The first step to be resolved is the process of adequate lighting for capturing the digital images of the human epidermis. ATONUS, with national technology, is now developing a video-dermoscope with fiber optics in order to uniformly illuminate the human epidermis.

This equipment will be capable of capturing color digital images through a micro-camera.

This camera would generate a video signal through a board installed in a personal computer that would digitize the captured images.

Once the images of the epidermis is captured they would be applied to a software program that is specific for analyzing morphological and radio metrical cutaneous lesions, in order to diagnose skin cancer.

It is the intent to apply the methodology of analyzing digital images adopted within each

scientific discipline known as “ Computational vision”.

After specifying the methodologies and algorithms adequate to extract the parameters of the skin lesions that would be relevant in diagnosing cancer, ATONUS will develop a software program that will include such algorithms that will allow medical specialists ease in utilizing this tool.

The experience acquired in capturing and analyzing of images in human semen gives ATONUS the edge in developing this innovative technological project.