



SKIN DIAGNOSTIC

Three-dimensional mapping for melanoma diagnosis

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TRL scale



What it is needed for?

This apparatus can map the skin of patients who visit a dermatologist for early stage melanoma screening. The system can recognize and evaluate the moles with a risk of developing melanoma. The 3D information it gathers is crossed with a database of risk factors. It can also monitor the evolution of moles over time.

This invention aids doctors involved in early-stage diagnosis of melanoma by automatically recognizing and identifying moles through thermography and photogrammetry. The system develops 1) a high resolution 3D model of the patient's skin defined within a textured system of visible (RGB) and infrared (IRT) data; 2) a list of the identified moles. Each mole is characterized by morphologic and chromatic information, as well as thermal response data. It is then crossed with melanoma risk factor information, on the basis of geometric, chromatic and thermographic diagnostic data, which are an integral part of the system. After the first mapping, the system can monitor the evolution of nevi over time.

Advantages

- Automated mole mapping,
- Identification of moles at risk of melanoma,
- Yields objective data necessary to monitor the evolution of moles over time,
- Speeds up mapping.

Applications

- Medical diagnostic device for clinics and hospitals
- Dermatology analysis