

Action BM1205

European Network for Skin Cancer Detection using Laser Imaging



Duration: March 2013 – March 2017

Participating countries: AT, BE, CH, DE, DK, ES, EE, FR, FI, UK, HR, IT, IE, LT, LV, MT, NO, PT, SE, TR, RS

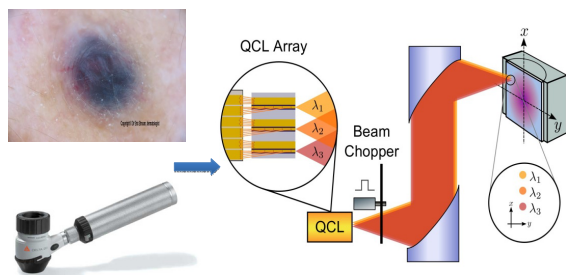
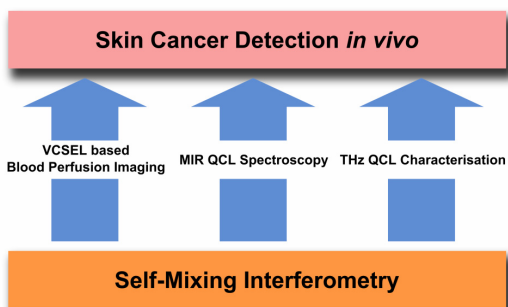
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http://www.cost.eu/domains_actions/bmbs/Actions/BM1205



Working Group Activities

WG1: full-field VCSEL array perfusion imaging – will develop an ultra-compact, full-field blood perfusion sensing technology based on the 2D laser arrays. Will enable rapid quantification of vascularisation. Clinical evaluation of the system.

WG2: Tissue characterization at mid infrared frequencies using QCLs. –relevant for diagnosis of skin lesions, will make available additional chemical mapping to the vascular and structural information. Clinical evaluation of the system.

WG3: Tissue characterisation at terahertz frequencies using THz QCLs. Initial work shows potential for discriminating basal cell carcinoma (BCC) from surrounding healthy tissue. Potential to revolutionize in vivo diagnostics. Clinical evaluation of the system.

WG4: Validation and evaluation of combined sensing modalities. Clinical evaluation of the combination of the multiple investigative techniques in the discrimination of malignant versus non-malignant behaviour in tissue lesions. Image fusion.

Objectives of the network

•The Action will provide an interdisciplinary framework to enhance interaction activities within the field of optical biosensing, between world-class academic groups, clinicians, and system integrators from industry.

•**The main objective of this Action is to coordinate efforts and enhance interaction of researchers, as well as to promote development and application of early, accurate diagnosis of skin cancer known to be the key determinant of patient outcome.**

•Network scientific objectives are:

- Development of VCSEL Array full-field **blood perfusion imaging**
- **Tissue characterization in mid-infrared** (MIR) in reflectance mode
- **Tissue characterization at terahertz** (THz) frequencies
- **Validation and evaluation** of combined sensing modalities

