

UC Irvine

UC Irvine Previously Published Works

Title

Fast large area multiphoton exoscope (FLAME) for improving the detection accuracy of early melanoma

Permalink

<https://escholarship.org/uc/item/0b6264n8>

Authors

Balu, Mihaela
Vicente, Juvinch R
Shrestha, Kristina
[et al.](#)

Publication Date

2022-03-07

DOI

10.1117/12.2617030

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

Peer reviewed

7 March 2022

Fast large area multiphoton exoscope (FLAME) for improving the detection accuracy of early melanoma

Mihaela Balu, Juvinch Vicente, Kristina Shrestha, Amanda F. Durkin, Christopher B. Zachary, Anand K. Ganesan, Kristen M. Kelly

Author Affiliations +

Proceedings Volume PC11944, Multiscale Imaging and Spectroscopy III; PC1194405 (2022)
<https://doi.org/10.1117/12.2617030>

Event: SPIE BiOS, 2022, San Francisco, California, United States

Abstract

Our group and others have demonstrated the strong potential of the multiphoton microscopy for a broad range of applications from advancing the understanding of skin biology to non-invasive diagnosis of skin diseases and monitoring therapy effects. We have recently reported on a fast large area multiphoton exoscope for rapidly mapping out macroscopic tissue areas with microscopic resolution and enhanced contrast for selective melanin detection. We will describe the technical abilities of this instrument and demonstrate its feasibility for early melanoma diagnosis based on a pilot study on ex-vivo and in-vivo imaging of pigmented lesions suspicious of melanoma in human skin.