

Singapore develops hand-held device for skin care

22 April 2021 | News

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Singapore Bioimaging Consortium (SBIC) has developed Auretek, a user-friendly hand-held device that can objectively and non-invasively analyse the bio-chemical composition of the patient's skin at point-of-care and in real-time.

The technology developers, Dr Renzhe Bi and Dr Dinish U. S. from SBIC's Laboratory of Bio-Optical Imaging, said, "We invented Auretek by employing our multi-disciplinary R&D experience in optical spectroscopy, fibre optics and artificial intelligence (AI). Auretek is a flexible hand-held probe that can achieve the same level of sensitivity and performance as conventional benchtop systems. Currently, Auretek is the only optical fibre-based dual-wavelength confocal Raman system with a flexible hand-held probe that provides depth profiling of human skin in vivo."

By leveraging a comprehensive skin bio-chemical database and advanced software analytics, clinicians can gain pertinent insights on the skin's condition and will be able to accurately diagnose and treat skin diseases, with the help of Auretek.

The system has passed several rounds of prototyping and clinical trials, which have proven it to be robust and clinician-friendly. Meticulously crafted by engineers, Auretek blends design and technology to offer a great user experience.

Additionally, Auretek has the potential to assist in the development and formulation of dermocosmetic products. For example, it can be used to test the skin's response to active ingredients.

Based on feedback from dermatologists, the research team is working on further optimising and miniaturising the hand-held probe. The skin bio-chemical database and AI algorithm will also be further established and validated through clinical trials.

Singapore Bioimaging Consortium (SBIC) is one of the 10 research institutes of the Biomedical Research Council under the Agency for Science, Technology and Research (A*STAR) in Singapore.