

Webinar: Melanoma Community Forum

CRE Melanoma Community Forum – 20th November 2020

AI in dermatology: how, where, and when?

On the 20th November 2020 the Centre of Research Excellence for the Study of Naevi held a Melanoma Community Forum via webinar. Guest speaker Dr Victoria Rotemberg, an innovative dermatologist from Memorial Sloan Kettering Cancer Center in New York, presented on the topic “AI in dermatology: how, where, and when?” In her talk, Dr Rotemberg provided great insight on the use of artificial intelligence (AI) for diagnostic imaging and shared exciting results from the 2020 International Skin Imaging Collaboration (ISIC) Melanoma Classification Challenge.

The 2020 ISIC Challenge was an international collaboration with multiple international universities and research institutions in New York, Vienna, Barcelona, Athens, Brisbane and Sydney. Each institution submitted dermoscopic images of skin lesions with the aim of creating the world’s largest publically available collection of quality controlled images of skin lesions. The UQ Dermatology Research Centre contributed over 37,000 non-identifiable lesion images from 448 participants in the Changing Naevi Study, Mind Your Moles, and the Health Outcomes Program (HOPs) study who consented to share their non-identifiable images. The 2020 ISIC Challenge data set will be used to develop and improve machine-learning algorithms for melanoma detection and early diagnosis.

How do we want to use AI in dermatology in the future?

As part of her presentation, Dr Rotemberg reflected upon the potential for human-AI collaboration, and discussed some of the remaining challenges for translating AI into clinical dermatology practice. Examples of these challenges include identifying the most appropriate users of AI for skin cancer screening (e.g. patients, general practitioners, dermatologists), as well as the kind of criteria we would need to encourage adoption (e.g. improved sensitivity). In addition, Dr Rotemberg eloquently highlighted we need to optimise the use of AI through two key areas which will benefit patients. These two areas are: i) improving the detection of melanomas missed by clinicians; and ii) decreasing the number of unnecessary procedures and excisions of benign lesions.

Consumers were highly engaged in the discussion and asked a range of questions centred on how we will be able to use AI in dermatology in the future. Examples of topics covered included: how soon can we expect both 3D total body photography and AI to become part of regular clinical practice; how well will AI cope with identifying amelanotic melanomas; have any AI algorithms been approved by the FDA or TGA yet; are dermatologists embracing the role of AI or are they fearful of the new technology; how could we use AI in ways other than diagnosis, for example monitoring skin rashes for automatic detection of change; and will 3D total body photography and associated AI technology be available in public hospital settings.

Overall, this community forum was highly useful for the CRE investigators as it helped to develop a better understanding of the questions consumers have about the use of AI for skin cancer screening in particular and dermatology in general, and clearly highlighted their interest in the use of the new technology.