

SWIR-Hyperspectral Imaging

Hyperspectral Camera for Biomedical Research

五鈴光學 N17E-640M

推掃式紅外高光譜



Specification

- Spectral range: 900-1700nm
- Spectral Bands: 500 bands
- Image Resolution: 640 x 512px
- Dynamic range: 14bit
- Capture speed: 15s~

imec SnapscanSWIR

超高速內置推掃式紅外高光譜

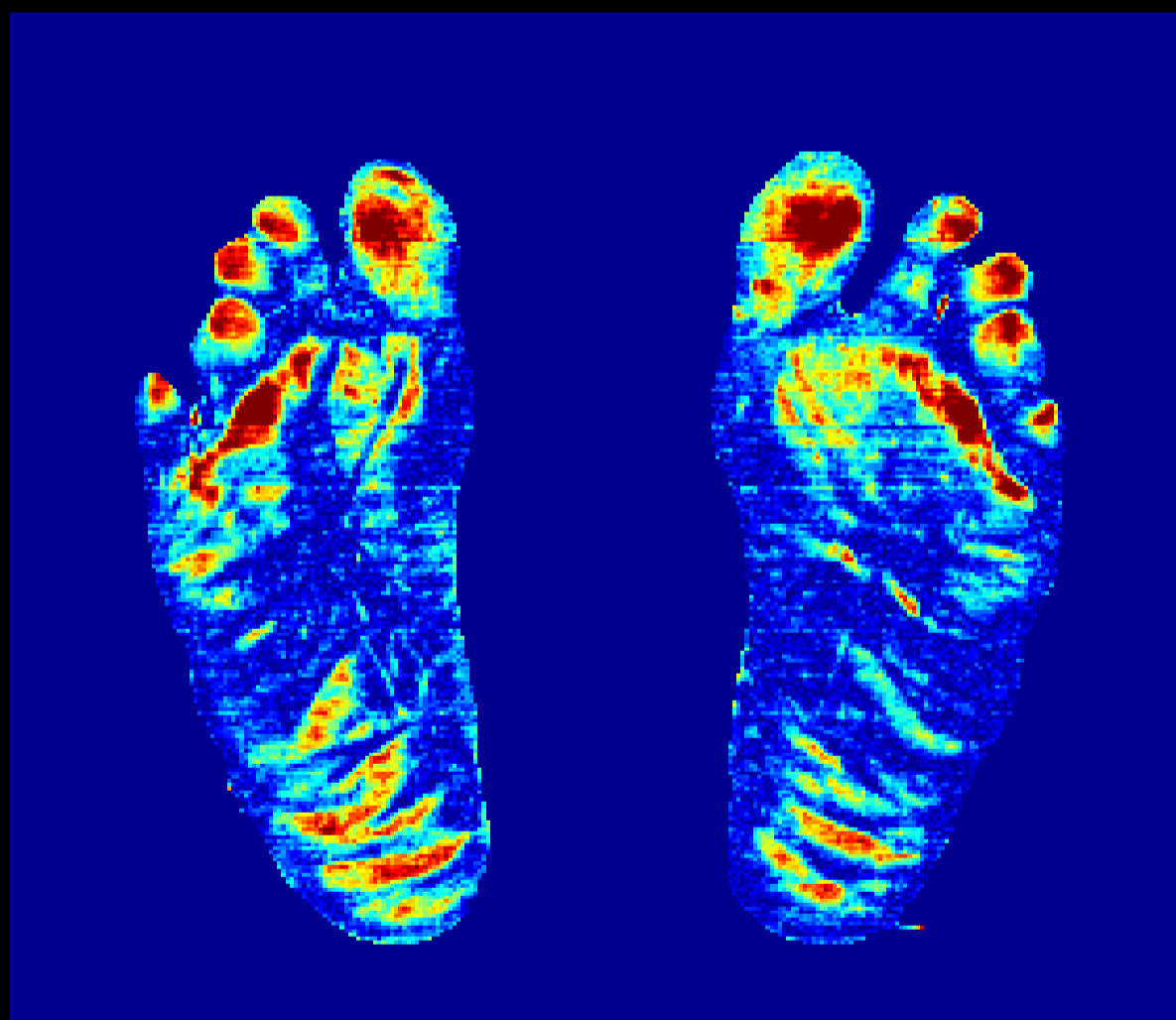


Specification

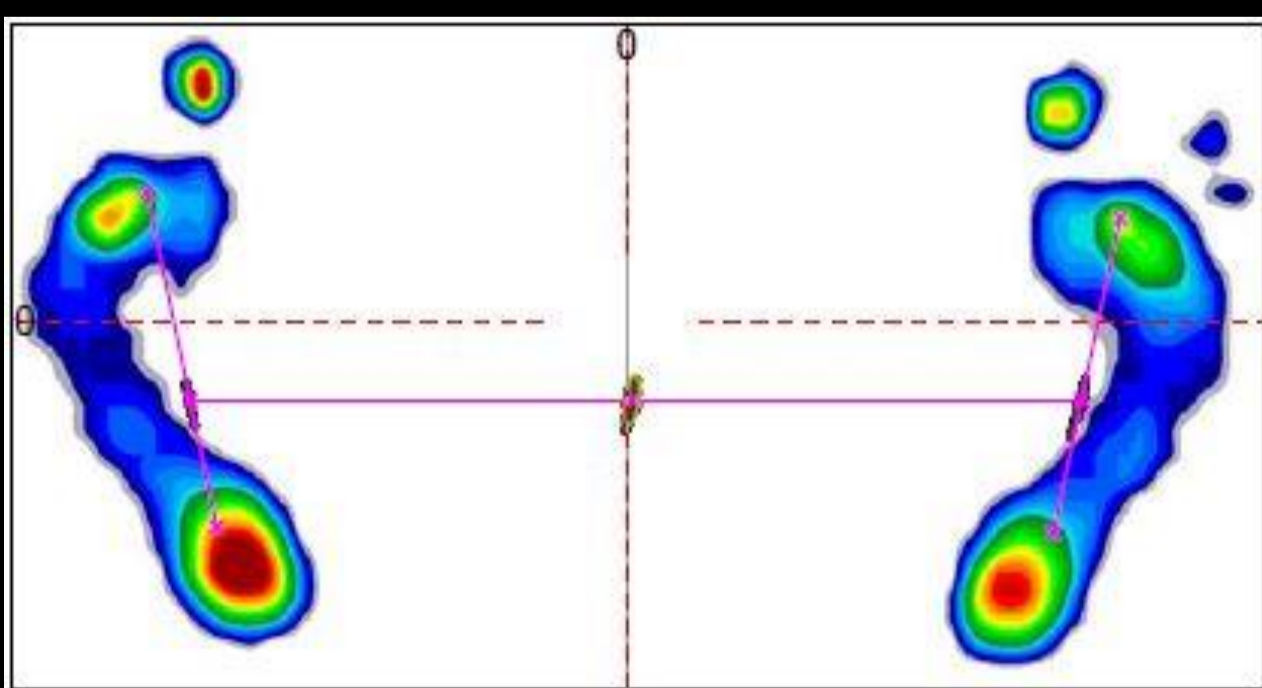
- Spectral range: 1100-1650nm
- Spectral Bands: 100 bands
- Image resolution: 640 x 1200px
- Dynamic range: 12bit
- Capture speed: 100ms~

高光譜應用實例 (糖尿病足部病變檢測)

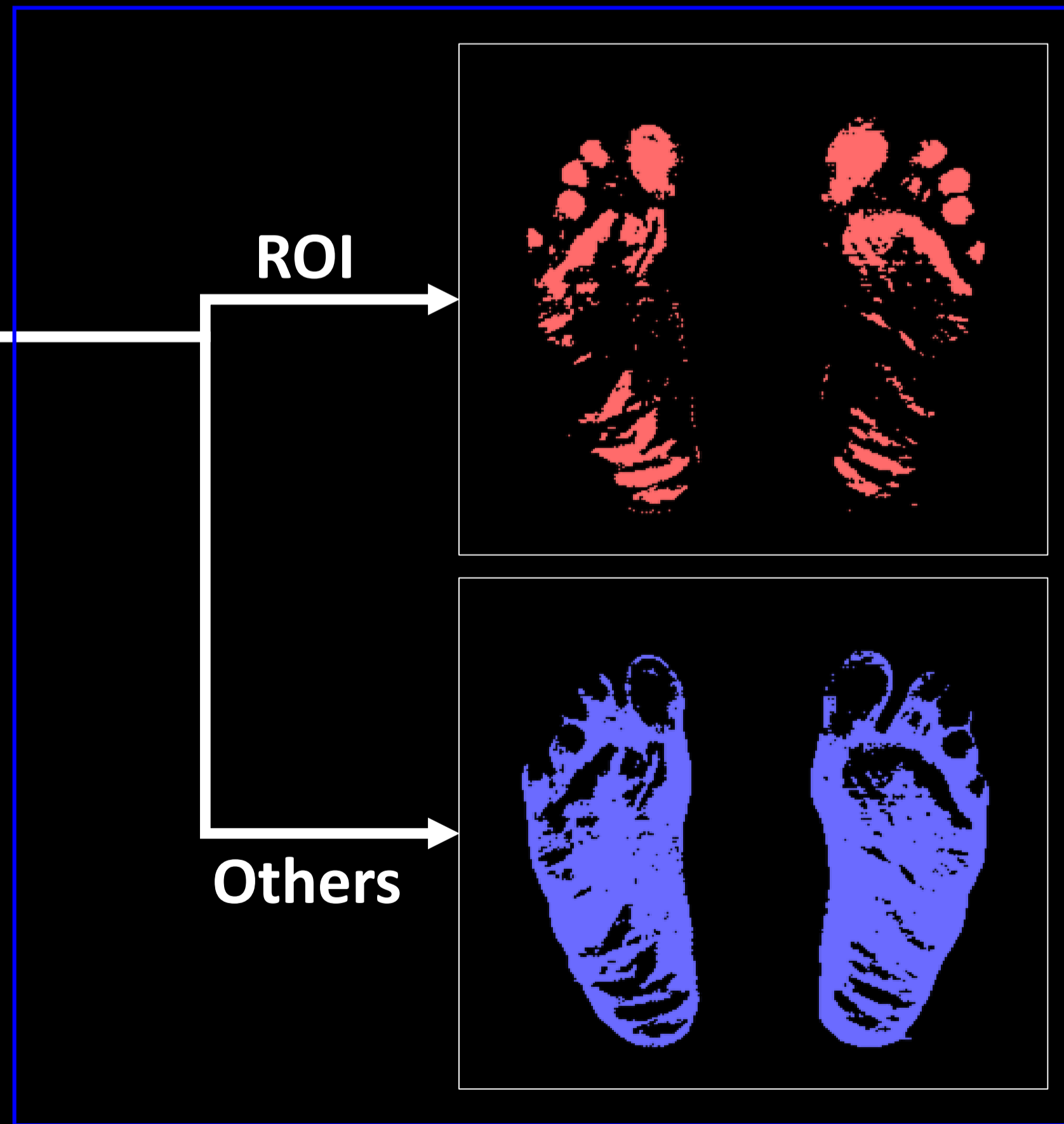
¹ Center for Quantitative Imaging in Medicine (CQUIM), Department of Medical Research, Taichung Veterans General Hospital, Taiwan.



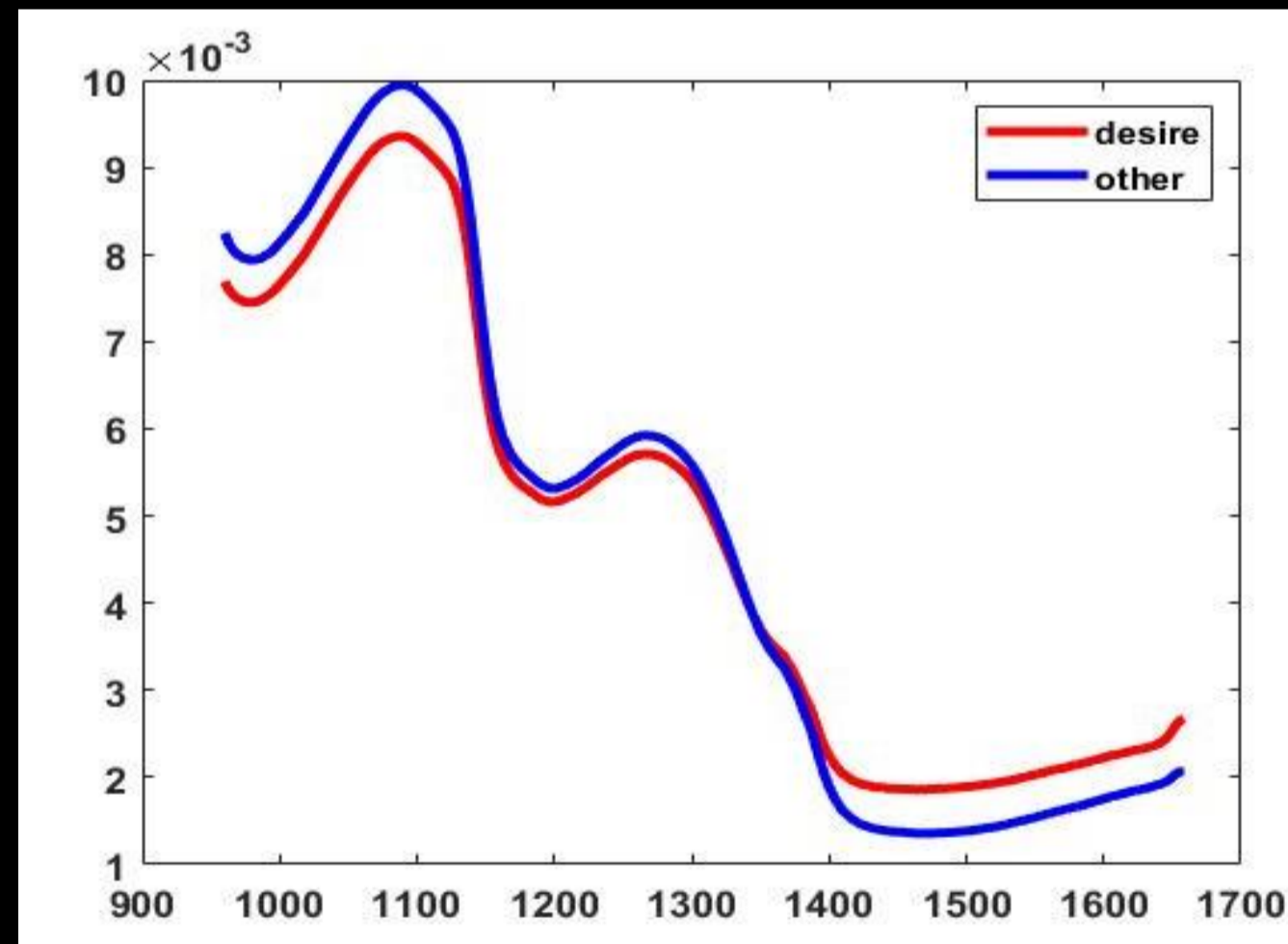
**用演算法計算正常人與糖尿病足患者，足部光譜的豐度差異性。



Plantar pressure results



- 以正常人的光譜設定閾值，透過演算法將病患足部光譜與正常人的做比較，將相異性較大的像素點標記出來(紅色)作為感興趣區域(ROI)。



- 進一步取出光譜發現，異常區域(ROI)與腳底其他區域(Others)的反射光譜在900-1000nm及1400-1700nm波段範圍位置有明顯的強度差異。
- 此結果與常見接觸式糖尿病足檢測法(足部感覺位置測試、足底壓力板測試)結果做比較，顯示出糖尿病患者在接受式檢測結果的異常區可以直接反映於光譜上。

