

Imaging Biomarkers Cues: An Innovation Advancing Dermatology



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Disclosures:

Inventor: mAID hyperspectral dermoscopy Inventor: SurgiVance confocal technology Equity holder: SurgiVance Inc.

Outline:

• Overview of emerging imaging technologies for diagnosis and treatment

- **IBCs** = Imaging Biomarker Cues
 - mAID = melanoma advanced imaging dermatoscope
 - SurgiVance = confocal dermatopathology



Innovative Magnitude

I support dermatologist instinct with technology to make informed decisions.

I saw something like this before ... I think.





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THE TIPPING POINT MALCOLM GLADWELL

HOW LITTLE THINGS CAN MAKE A BIG DIFFERENCE

The International Number One Bestseller

The three rules of the tipping point

The stickiness factor

• The power of context

• The law of the few

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HOW LITTLE THINGS CAN MAKE A BIG DIFFERENCE

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The three rules of the tipping point ... for innovation

 The stickiness factor TECHNOLOG How valuable is it?
The power of context TRANSLATION Ease of adoption
The law of the few PIONEERING Impact of early adopters SurgiVance[™] Histopathology "Lab-In-A-Box"

mAID: Melanoma Advanced Imaging Dermatoscope





Before:	Slow, Difficult	Visual inspection
After:	Fast, Easy	Visual + machine vision





mAID hardware 21 color-camera

Human Eye Mantis Shrimp (sees 3 colors of light: (sees 12 colors) red, green, blue)







visual intuitive



C: Melanoma Advanced Imaging Dermatoscope



mAID software

What the eye sees = Gold Standard Dermoscopy

Imaging Biomarker Cues (IBCs)

= Machine vision translated to the visual intuitive language of dermatologists (Dermoscopy)





"....thou shall not show the dermatologist T.M.I."









Ask dermatologist: melanoma or nevus?

Visual Imaging Biomarker Cues For Melanoma



Show IBCs, & again: melanoma or mevus? Rotational irregularity = 29 %

... are quantitative

Visual Imaging Biomarker Cues For Melanoma



... are quantitative

Visual Imaging Biomarker Cues For Melanoma

... are quantitative



Dermatologist training to read this took only 1 minute.

Visual Imaging Biomarker Cues For Melanoma

... augment human capability, increasing accuracy in melanoma detection



Pain Point:

SURGIVANCE

Pathology, STAT







Path Lab, Tissue Prep, Processing



Pathology Diagnosis w/ Microscope



Treatment Decision

Long pathology workflows = delayed treatments + inefficient clinical workflows

Solution: Rapid Point-of-Care, Direct-to-Digital Pathology

"In-office" treatment decisions for immediate patient care





workflow = INSTANT PATHOLOGY + VALUE increase throughput

- **VALUE** increase volume
- + VALUE expedite cures

Solution: Rapid Point-of-Care, Direct-to-Digital Pathology

"In-office" treatment decisions for immediate patient care



Biopsy sample placed in a tissue cassette yields histological digital images at the point-of-care in < 1 minute with diagnostic resolution

Product:

Tabletop Confocal Microscope

Consumable Tissue Cassettes



Image Processing Software with AI Algorithms



Added Value:



Worldwide Validation:







Funding Partners

Incubators

portland Seedfund







A New York Blood Center



WESTCHESTER COUNTY BIOSCIENCES ACCELERATOR



INCEPTION PROGRAM





The stickiness factor The power of context The law of the few





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Linked in



The cover for issue 27 of Oncotarget features Figure 4, "(A) Bimodal imaging examples of control and treated tumors (red) before and after the treatment period," by Browning, et al.

Experimental Wolume 30 March 2021 Dermatology

Free software download: computer application for semi-automatic erythema quantification (EQ)



'he official Journal of Arbeitsgemeinschaft Dermatologische Forschung, uropean Hidradenitis Suppurativa Foundation e.V.



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