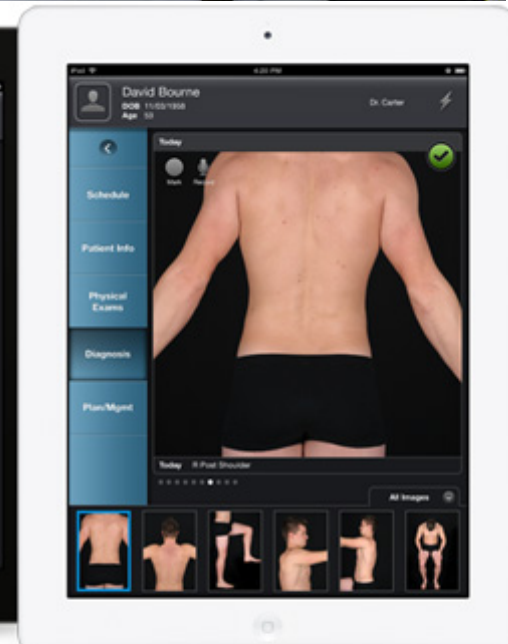
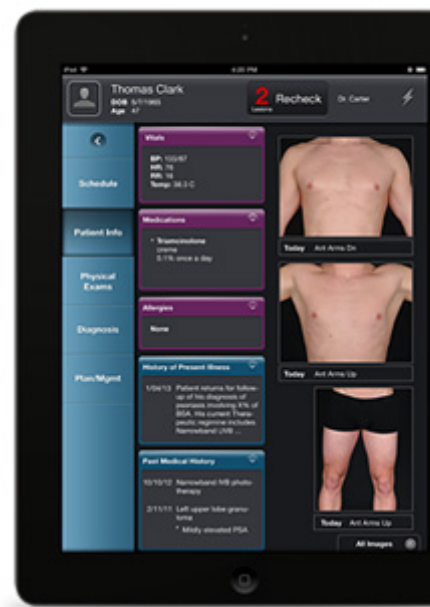




**Technology - Introducing Mole Mapper:
A Mole Tracking iPhone App
Sancy Leachman, MD, PhD
Oregon Health & Science University**

DermSpectra: Total Body, High-Resolution Photography



What Is Mole Mapper?

- An iPhone app that helps individuals track the size and location of their moles



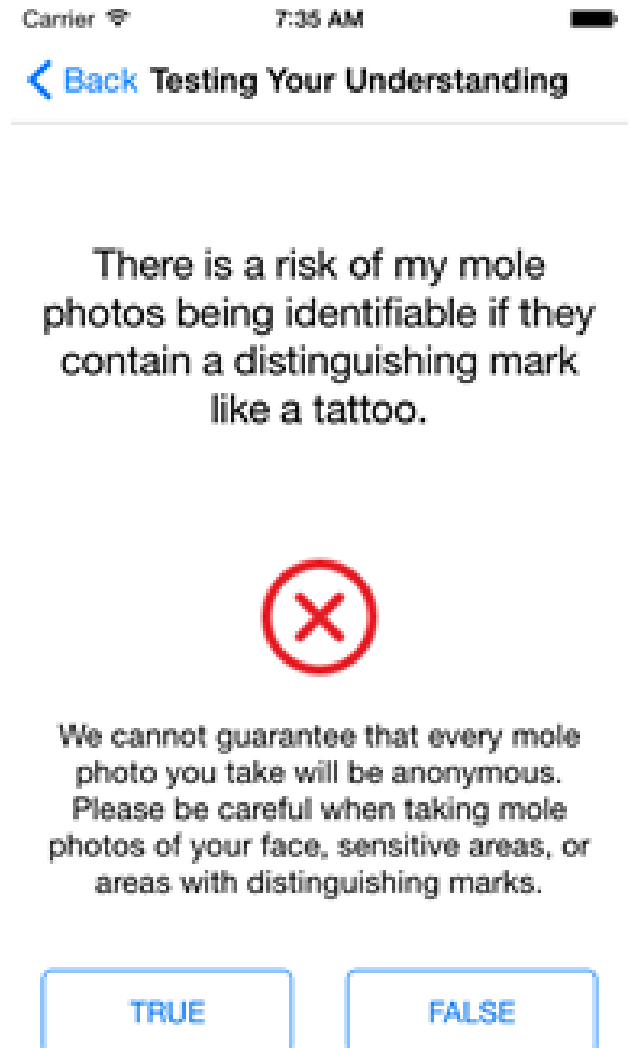
- Available in iTunes Store
- Part of Apple's ResearchKit Suite of Apps
- Not available on Android phone systems (yet)
- Cannot diagnose melanoma or make recommendations

Consent to share data or not

- **Receive Informed Consent**

Go through formal consent on app
Pass test to demonstrate understanding
Of risks and benefits


(Courtesy of John Wilbanks)



Carrier 7:35 AM

[← Back](#) Testing Your Understanding

There is a risk of my mole photos being identifiable if they contain a distinguishing mark like a tattoo.



We cannot guarantee that every mole photo you take will be anonymous. Please be careful when taking mole photos of your face, sensitive areas, or areas with distinguishing marks.

Answer baseline demographic and risk questions

Carrier 8:09 AM

< Step 3 of 6 Cancel

Natural Hair and Eye Color

Hair Color

Eye Color

Next

Skip

Carrier 8:09 AM

< Step 5 of 6 Cancel

Medical Information

HAVE YOU EVER BEEN DIAGNOSED WITH MELANOMA?

Yes

No

HAS A BLOOD RELATIVE (PARENT, SIBLING, CHILD) EVER HAD MELANOMA?

Yes

No

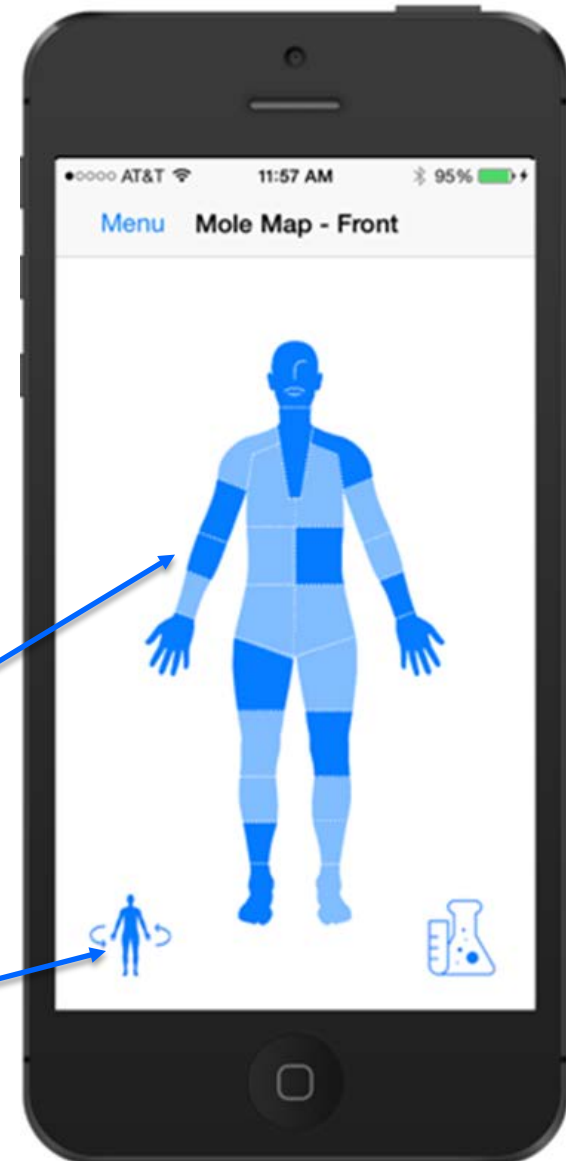
How does Mole Mapper work: Map, Measure, Monitor!

- **Select body regions to follow**

Not necessary to take all photos at once
(App tracks regions mapped)

Select body region to photo
(photographed regions turn dark)

Choose front or back body diagram



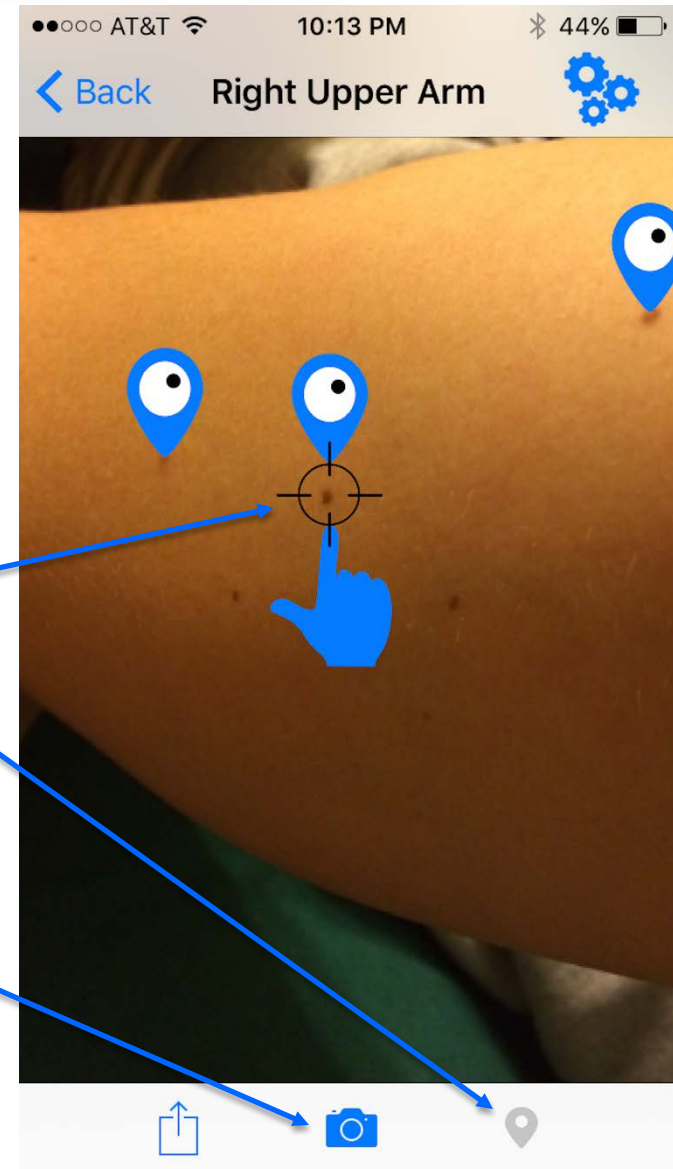
How does Mole Mapper work?

MAP

- **Map moles in the region**

Drop “pins” on moles to track
(like a city map)

Photograph the region



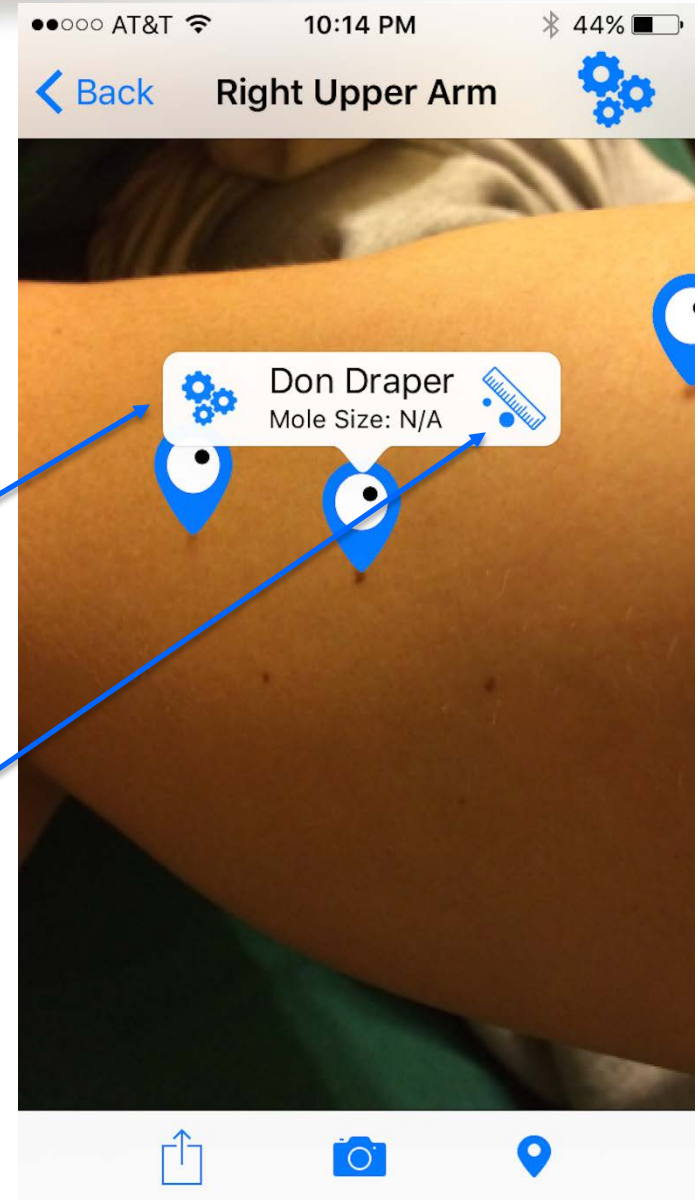
How does Mole Mapper work?

MEASURE

- **Name and measure moles in the region**

Touch “pin” to name and pull up ruler

Select ruler to start measuring the mole



How does Mole Mapper work?

MEASURE

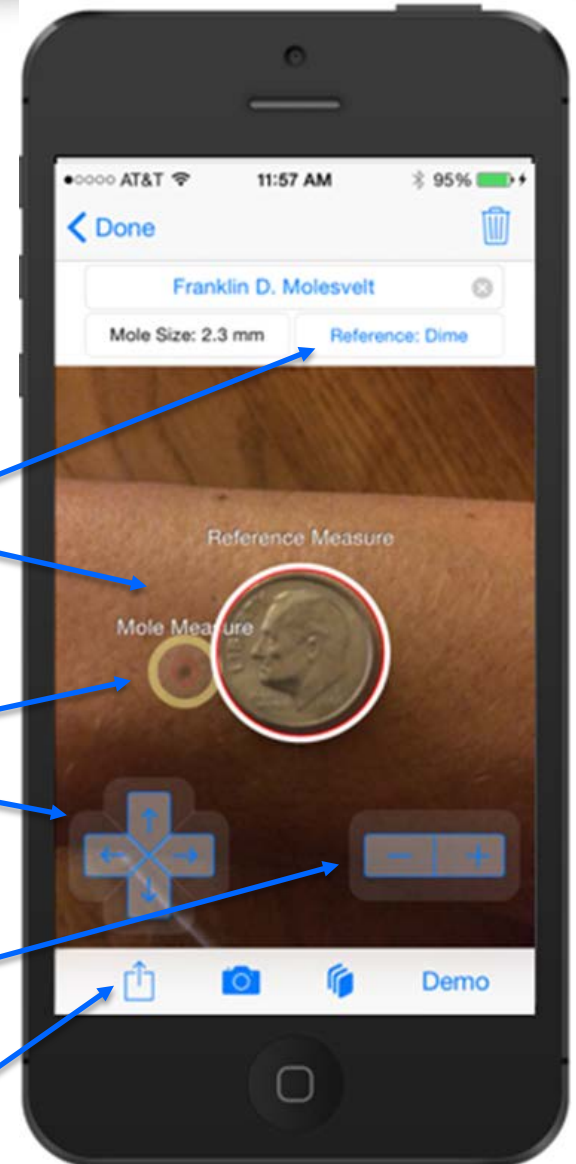
- **Take close up photo with reference control**

Re-take close-up photo of mole with coin in picture
(select reference coin used)

Position the circle over the coin and mole

Adjust size of circle to match photo

Email image if desired



How does Mole Mapper work?

MONITOR

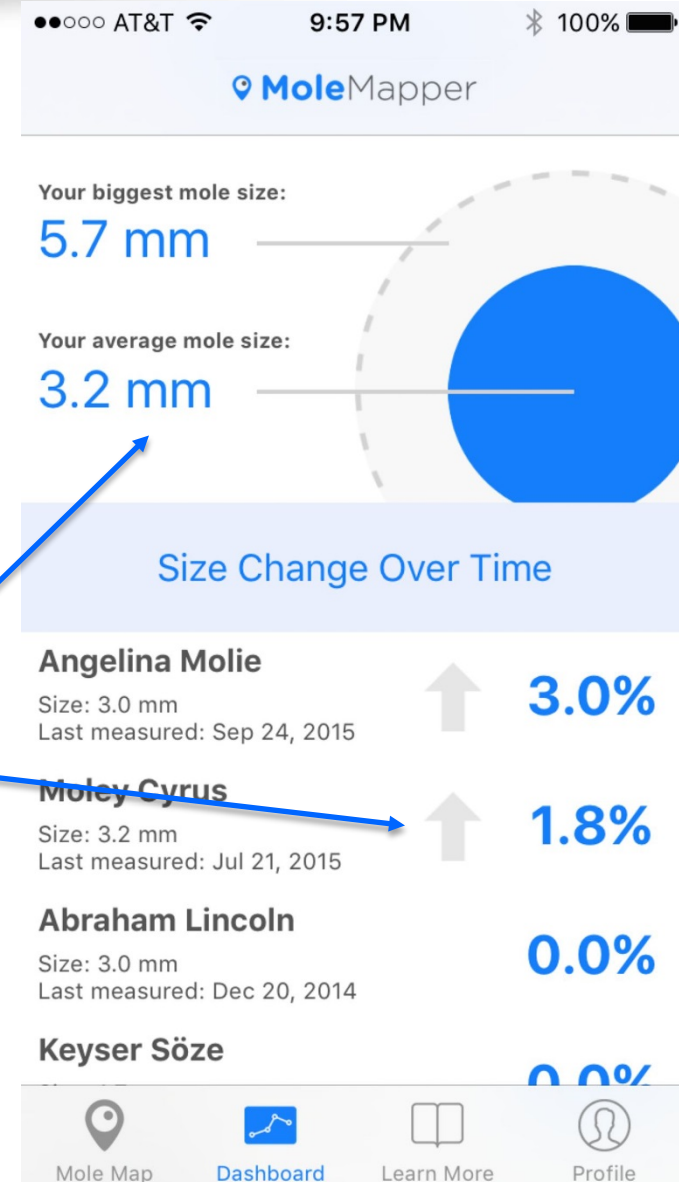
- **Monitor moles over time**

- Follow a Dashboard of Mole Data**

- Receive reminders to re-photograph moles

- Track sizes and changes in size of moles over time

- Note if moles have been removed and track scars

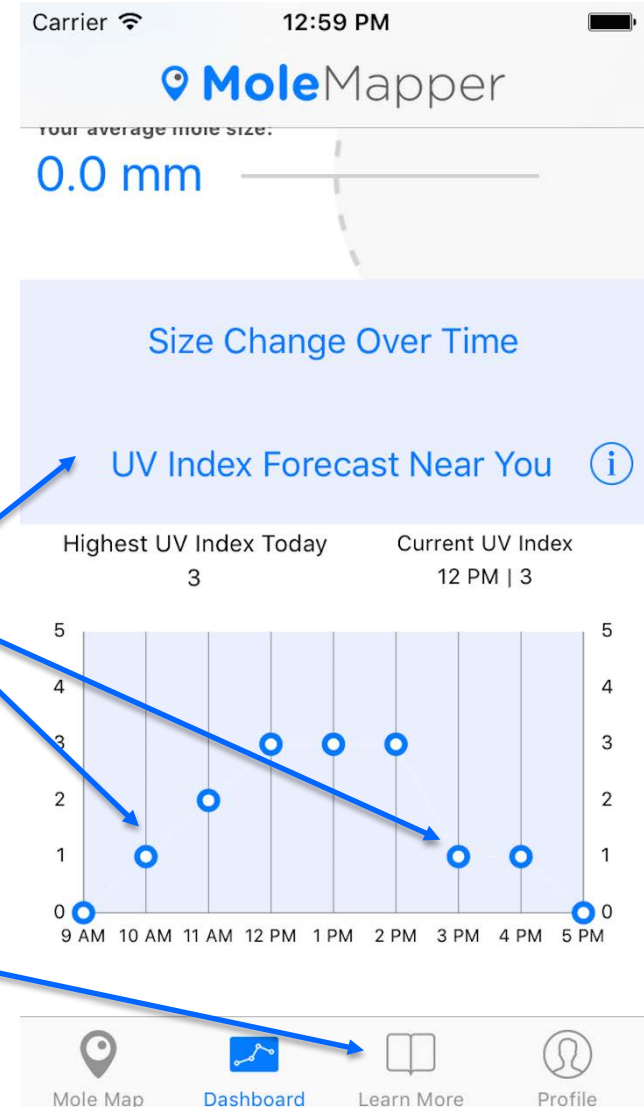


How does Mole Mapper work? Other Features

- **Modify sun exposure & prevention behaviors**

Check UV index at your location
(inform decisions about when to go outdoors)

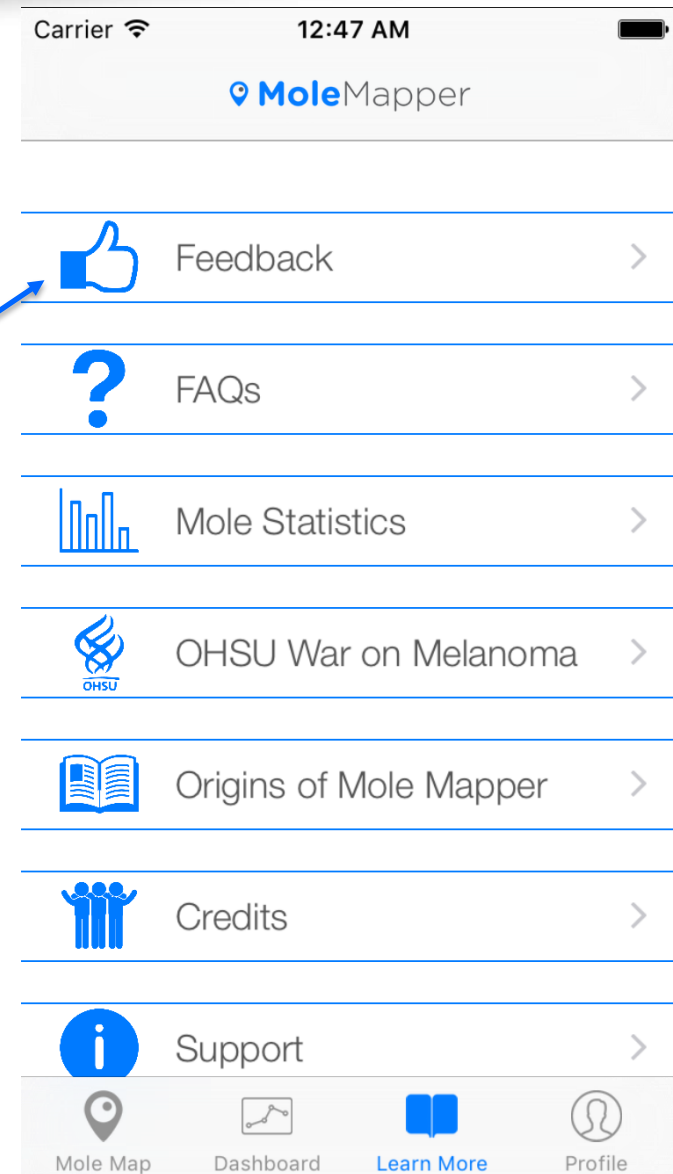
Learn more and provide feedback



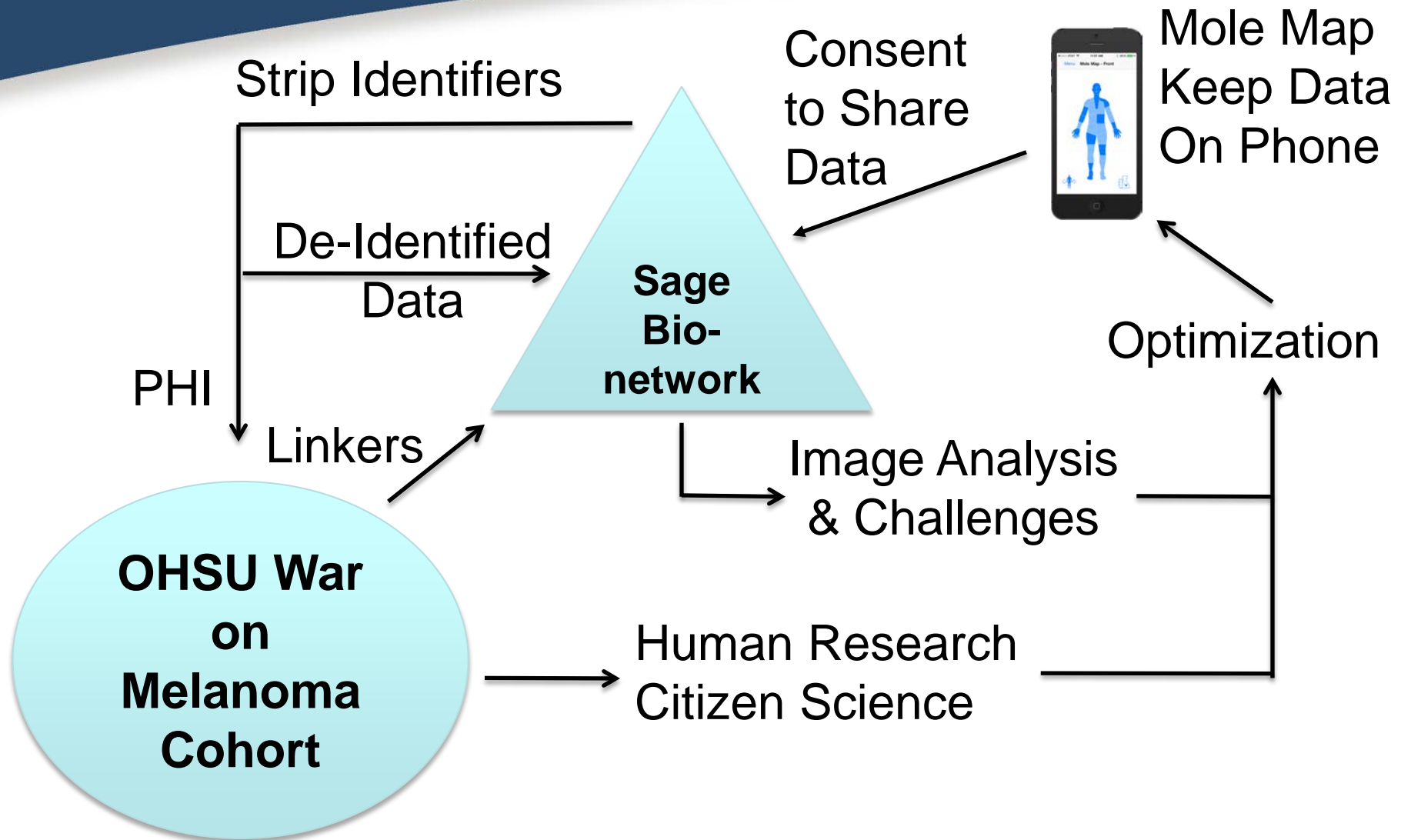
Sharing Data & Optimizing Performance

- **Provide Feedback!!**

Learn more and provide feedback



Sharing Data & Doing Research



Vision for Mole Mapper

- Now:
 - Accurate tracking of mole size
 - Collection of data for future improvements
 - Establishment of collaboration networks
- “Immediate” Future:
 - App improvements (usability, accuracy, additional measures & technology)
 - Analysis and App-Testing Crowdsourcing
- Long-Term: App-based diagnostic

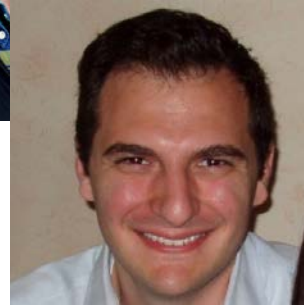
Acknowledgements

Stephen Friend

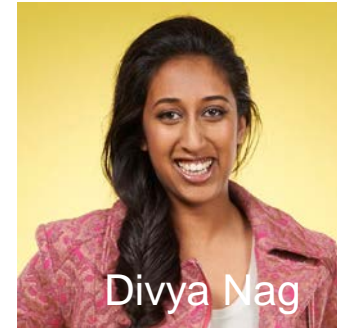


Dan & Courtney Webster

- Oregon Health & Science University
 - Dermatology
 - Knight Cancer Institute
 - OCTRI



Andrew Trister



Divya Nag



- Daniel Webster
- Sage Bionetworks
- Apple



Jeff Williams



Mike O'Reilly



Lisa Domenico

