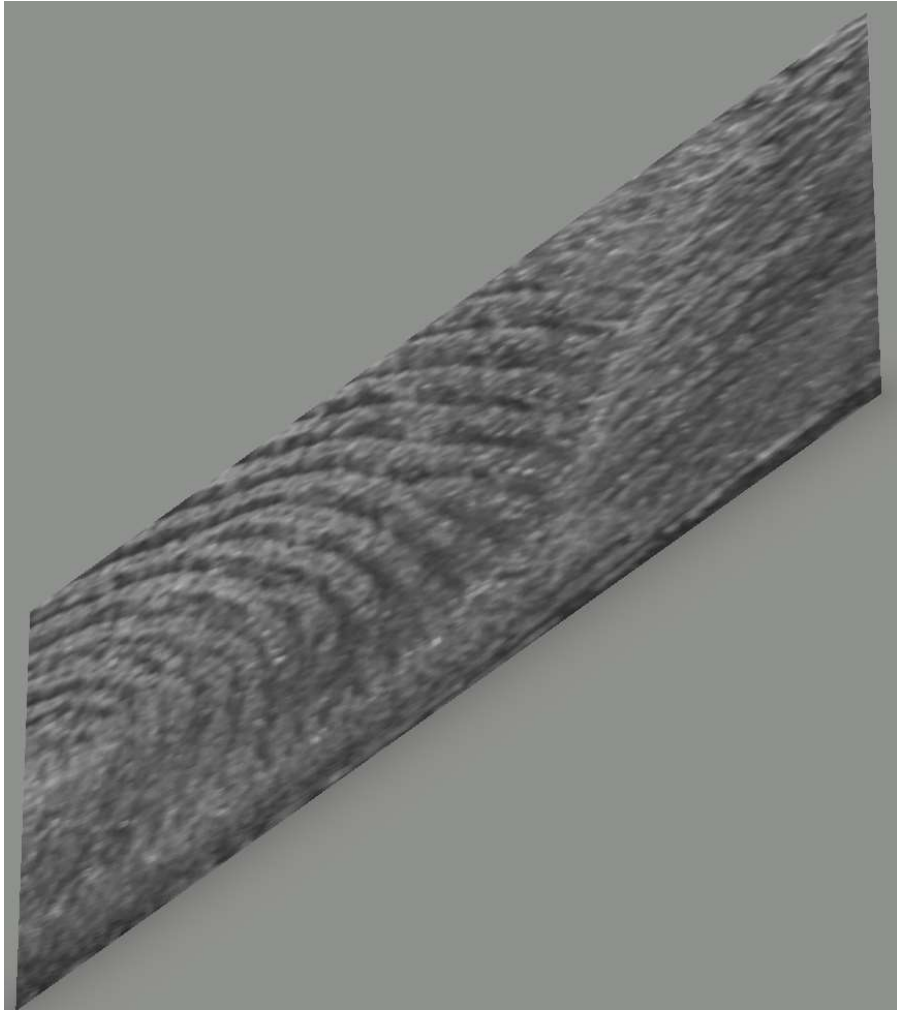




The Balloran Effect

Using Free Software for a
New Perspective on Enhancing
Poor Quality Latent Prints

Presented by Ed German
Certified Latent Print Examiner (IAI)
Certified Biometrics Professional (IEEE)
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**Free software to
easily look down
rows of ridges from a
variety of
perspectives... and
sometimes see new
features you may not
otherwise notice.**

Presenter's Short Bio

52 years ago, I lived in Oxon Hill, MD (one mile from this hotel) in an apartment I shared with three other FBI Fingerprint Examiners.

When I started my fingerprint career in 1971, the FBI paid me \$2.05 per hour.

Presenter's Short Bio

I have worked in human identification, interfacing with government laboratories on six continents, including 36 years' federal service in the FBI, US Military, and CIA... and decades in other labs in Tennessee, North Carolina, California, and Illinois.

THIS PRESENTATION IS
UNCLASSIFIED



Presenter's Short Bio

I was the lucky scientist who introduced superglue fuming, RUVIS, static electric shoeprint lifting, and other forensic technology from overseas laboratories to the English speaking world.

Presenter's Short Bio (Continued)

- I now live and work in Macon County Illinois (with my loving wife/high school sweetheart) ... where I am the Forensic Lead supporting multiple law enforcement agencies.
- My mother worked at the same sheriff's office until her mid-70's.



The Usual Caveat...

This presentation does not purport to represent the position or opinion of any current or past employer or organization with which Ed German was or is affiliated.

This presentation is based on a personal conversation with Latent Print Unit Supervisor Pablo Balloran at the Philippines National Bureau of Investigation Laboratory in Manila, circa 1978.

Pablo Balloran explained that for some poor quality latent prints, especially those with broken or spotty ridge detail, he taught his examiners to hold the latent print lift card or photograph at an angle and look down the rows of ridges as if they were a plowed field.

In the years between 1978 and the advent of digital imaging, I taught my interns to leverage the Balloran effect by holding an enlarged photograph at an angle to sometimes better discern ridge endings and bifurcations in poor quality impressions.

And, when digital imaging became available, I often played with programs to attempt to duplicate the Balloran effect, such as Photoshop's image transform tools.

For years I have used the free Microsoft Paint app for Green/Yellow/Red markup of 1,000 ppi latent print images... but now, most of us have newer, better software on computers running Windows operating systems.

That better software is **Paint 3D**



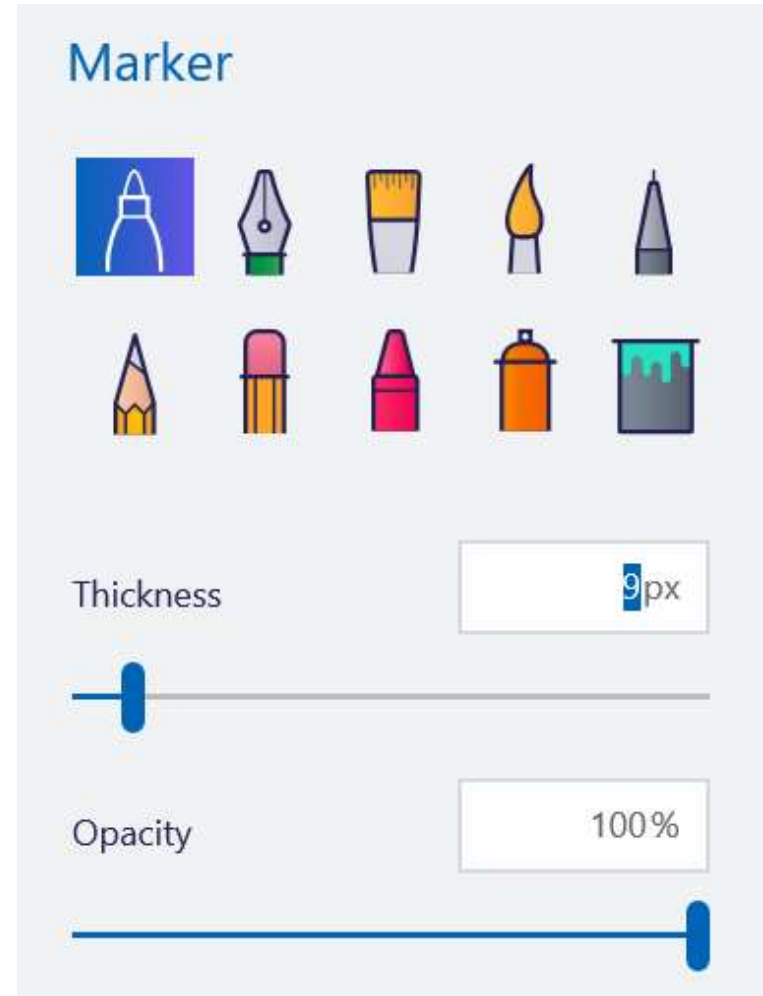
Step 1 – Open Paint 3D on your Windows computer by entering Paint 3D in the search window on the bottom left corner of your computer screen.

I recommend adding Paint 3D to your shortcuts if your employer permits it.

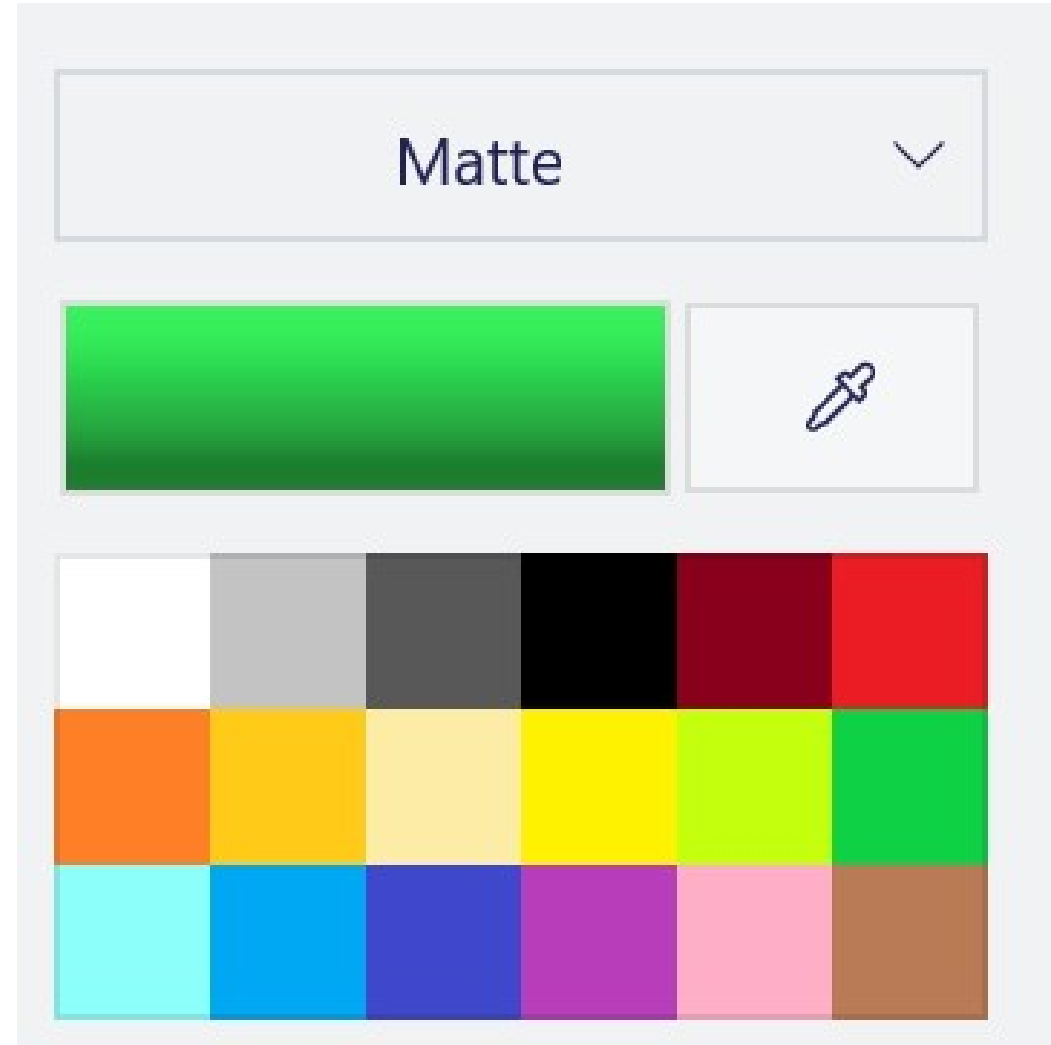
Step 2 – Open a 1,000 ppi latent print image (TIF, BMP, etc.) in Paint 3D.

Only use an image which you have already modified for optimal contrast, shades of gray, etc.

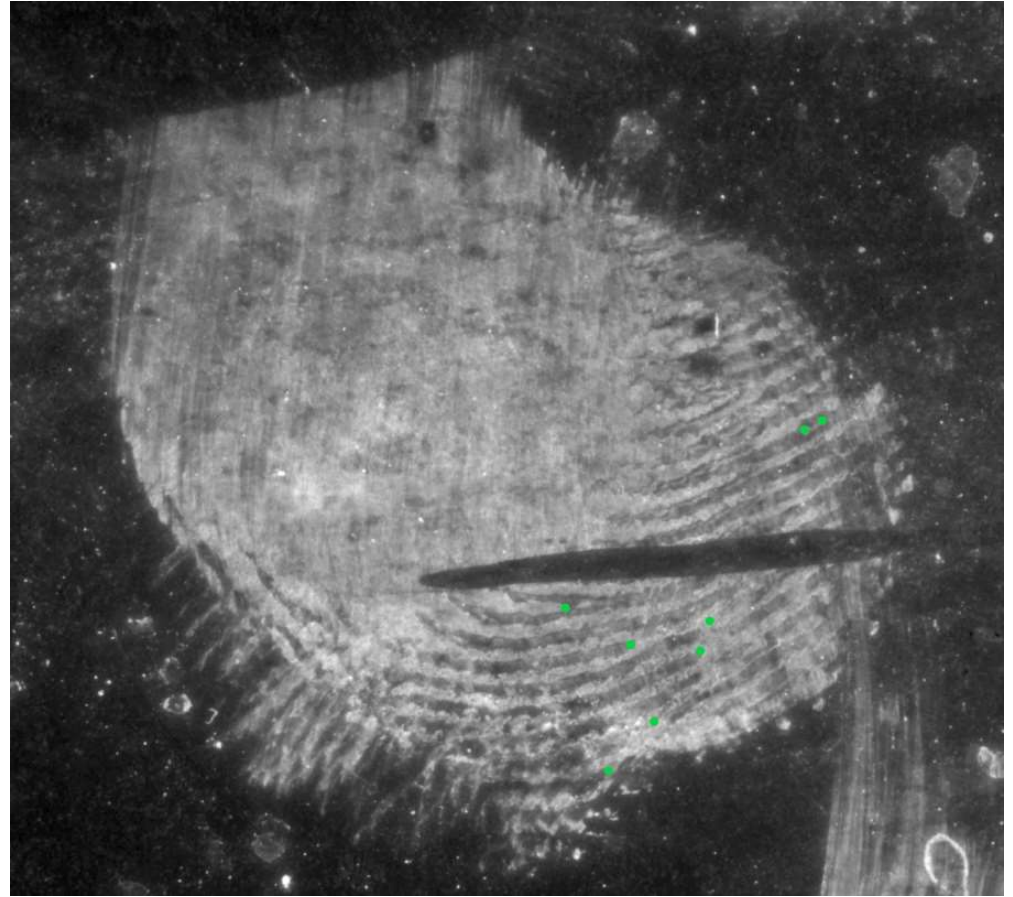
Step 3 – Set the Paint 3D marker size to 9 pixels and 100% opacity.



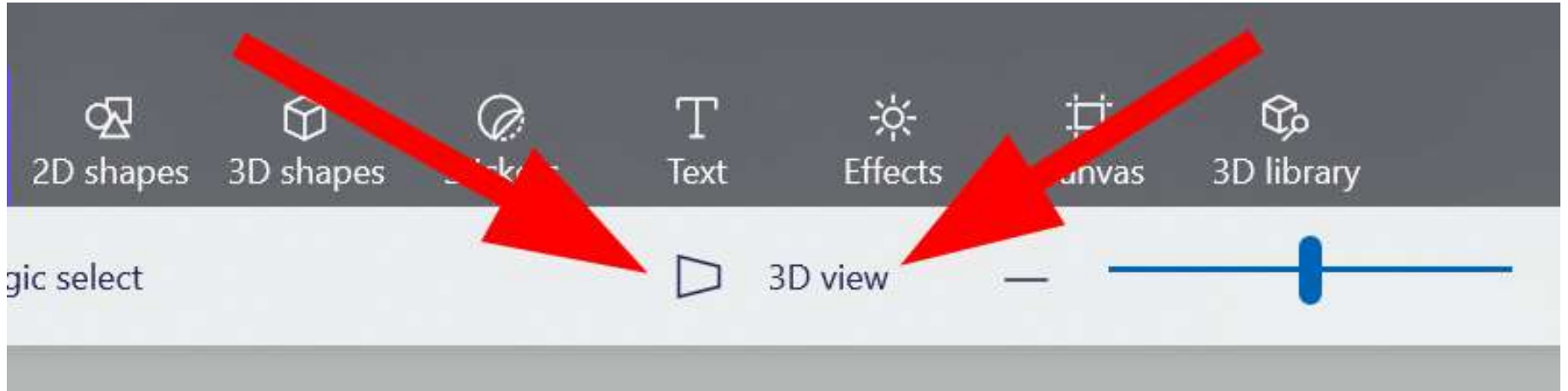
Step 4 – Select green, yellow, or red as the fill color for the dots you are going to mark during your GYR markup.



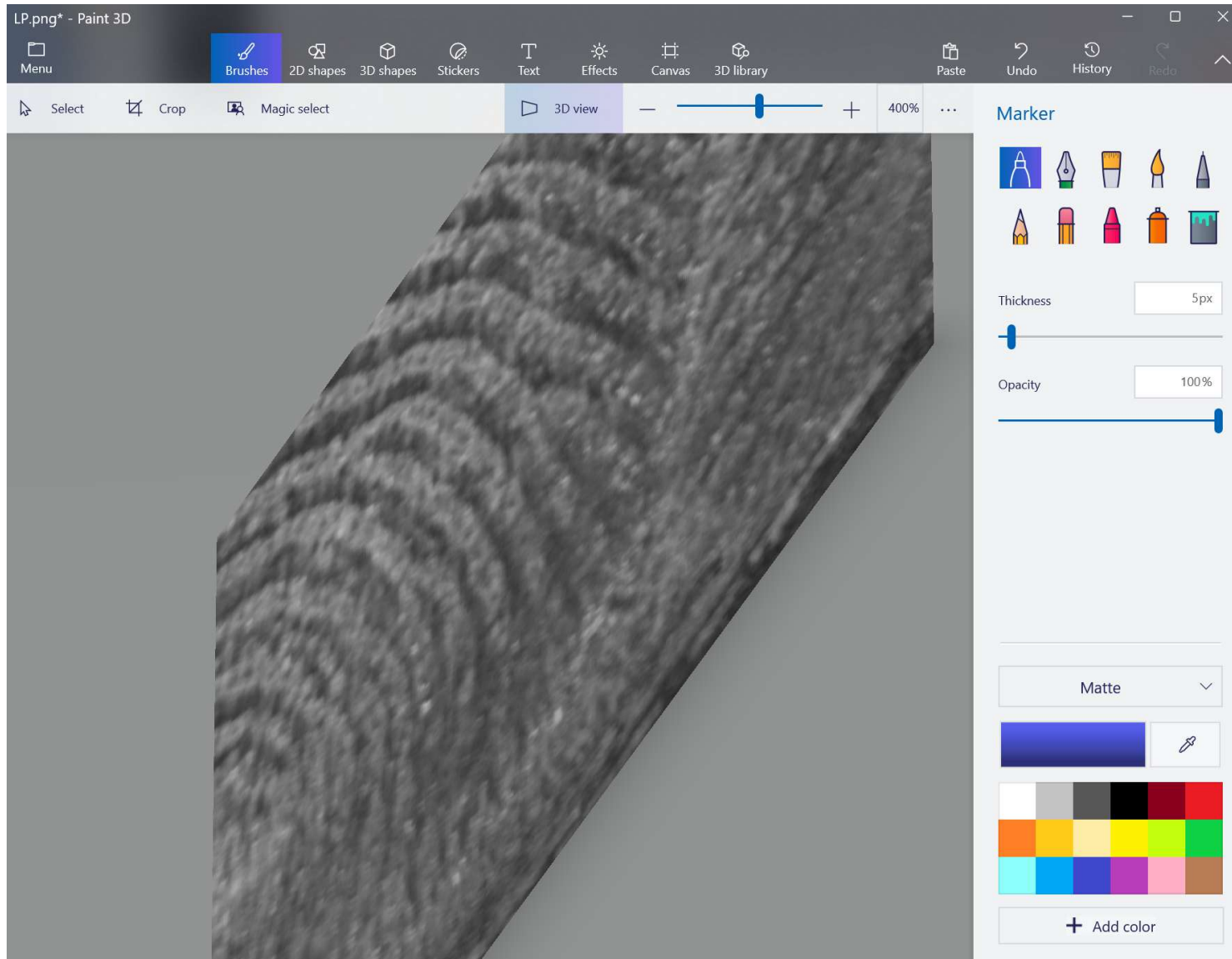
Step 5 – Markup all the obvious green and yellow minutiae. Many offices skip GYRO markup of impressions with high quality and quantity minutiae present.



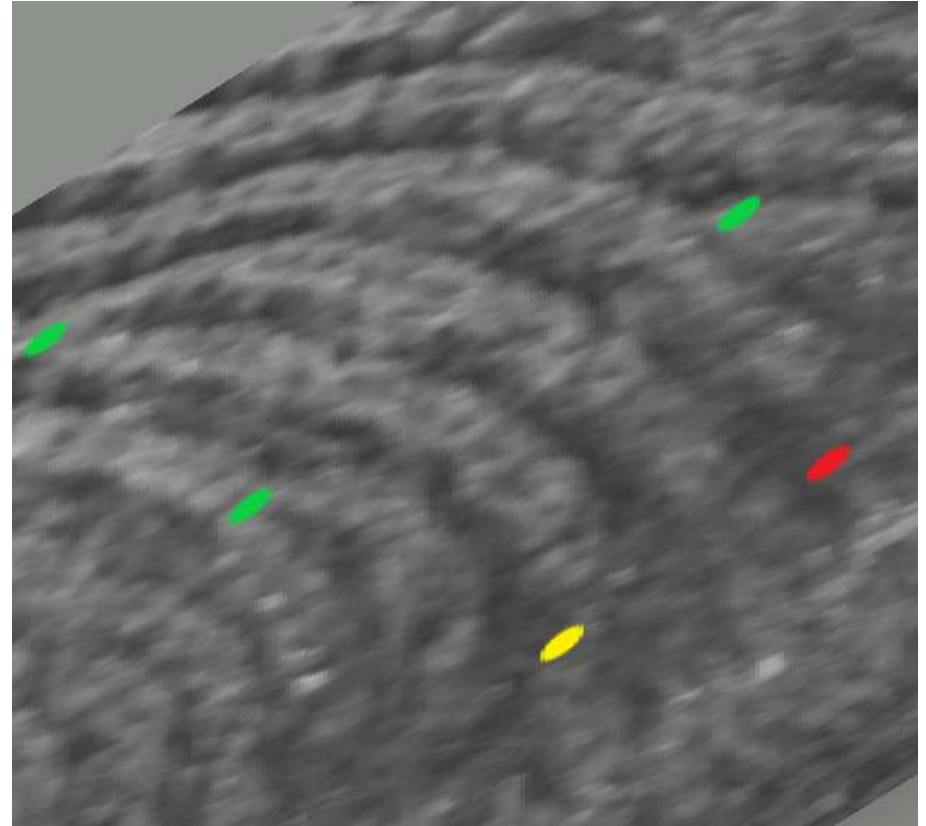
Step 6 – Click on 3D view in the 3D Paint tool bar.



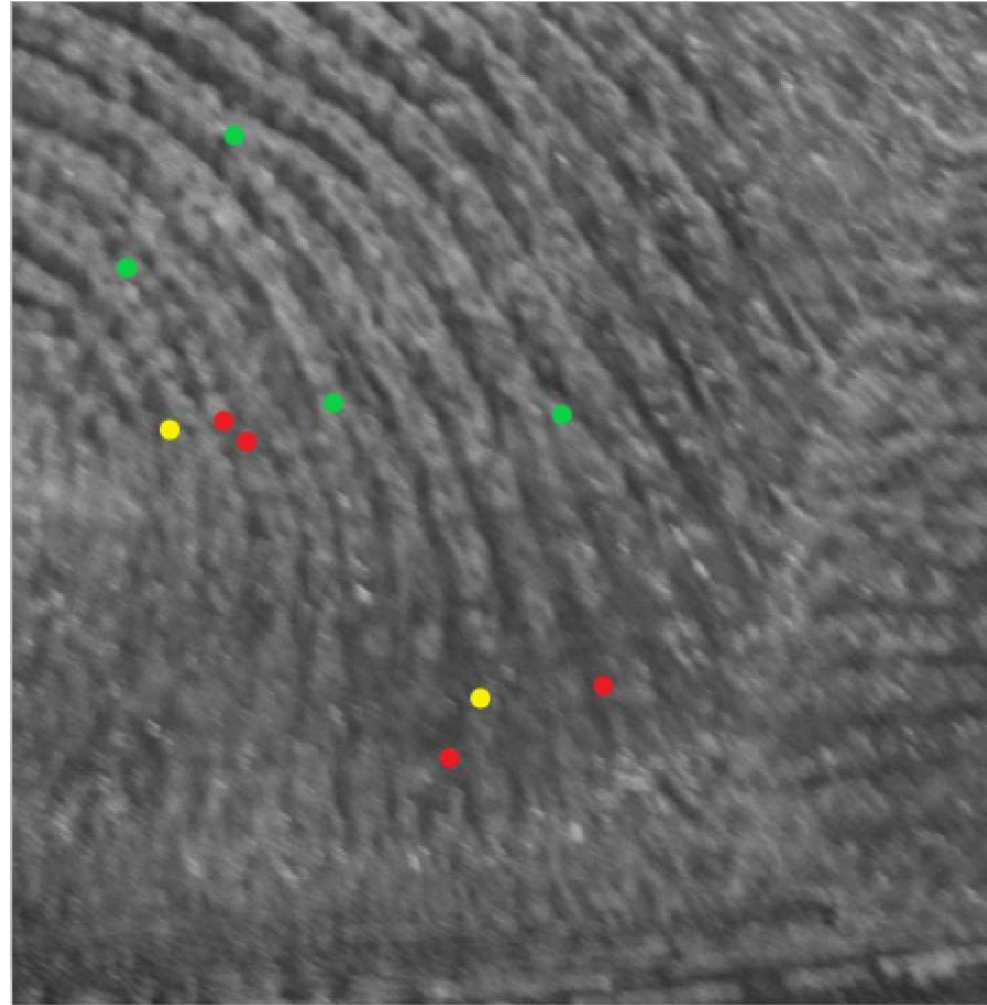
Step 7 – Hold down the right mouse button while moving on the image to change perspective, and roll the scroll bar wheel to zoom in or out.



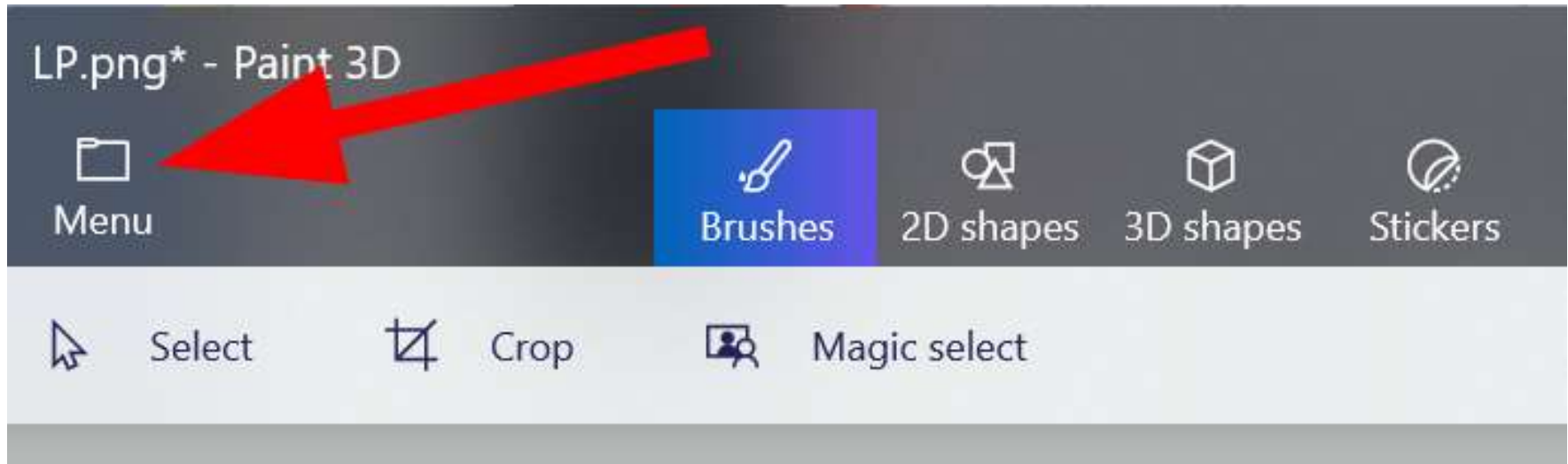
Step 8 – After selecting the color desired, mark any new minutiae. The colored dot will appear as an oval until you again click on 3D view.



Step 9 – When finished with different perspective viewing and marking, click on 3D View to return to normal flat viewing and round dots.



Step 10 – Click on Menu and then Save As to save the marked-up image as a TIF or other desired file type.



Questions?

Presenter's Short Bio (Continued)

In the early 1980s, I supervised the Illinois State Police (ISP) forensic laboratory system's latent fingerprint program when ISP became the world's first accredited forensic lab system.

Presenter's Short Bio (Continued)

In the 1980s, I was the first scientist to solve a case using laser excitation of latent prints, and the first scientist to do digital imaging in a forensic laboratory.

In 1999, I was one of the three direct testimony latent print examiner expert witnesses at the first Daubert hearing on fingerprints (US v. Byron Mitchell).

Presenter's Short Bio (Continued)

Google “latent print examination” and you will usually find my personal website Onin.com among the top hits worldwide because many latent print experts, labs, and universities leverage my 3,000 plus pages of information at that nonprofit website.

As the IAI's electronic archivist, each year I update the IAI's instantly searchable archive of more than 30,000 pages published since 1933.