Microscopic Bioart

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Introduction

- Bioart combines scientific methodology with artistic aspects to display scientific information in a visually aesthetic manner
- The subjects of these artistic images can involve a wide range of biological samples including bacteria, fungi, cells, or animal/plant tissues (3)
- My focus was keratin samples
- Keratin is a structural protein found in epithelial cells, lining the surfaces of the body
- Keratin is commonly found in hair, skin and nails

Methods

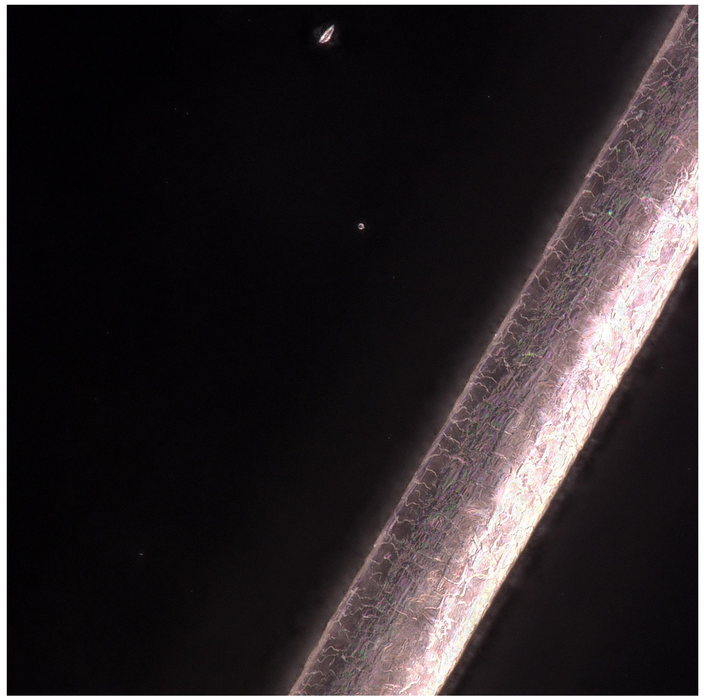
- Arriving at the final images required sample preparation, photography using the microscope's digital software, and editing using DeVinci Resolve
- All images were captured using the Nikon VHX Upright microscope with 4x, 20x, and 40x objectives
- Reflected light imaging was the technique chosen to capture my images, since it was best for these larger samples
- During my research, I learned various microscopy techniques including dark field, differential interference contrast, phase contrast, and fluorescence (1)

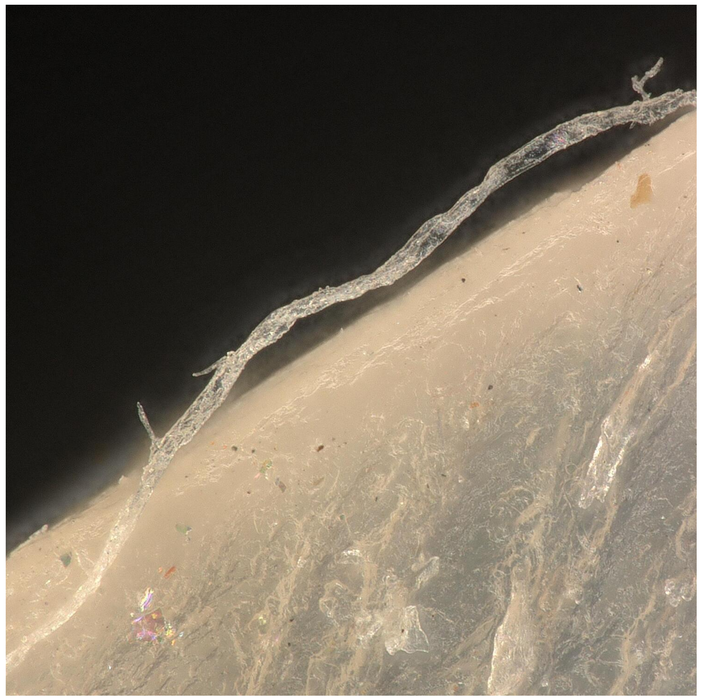
Results

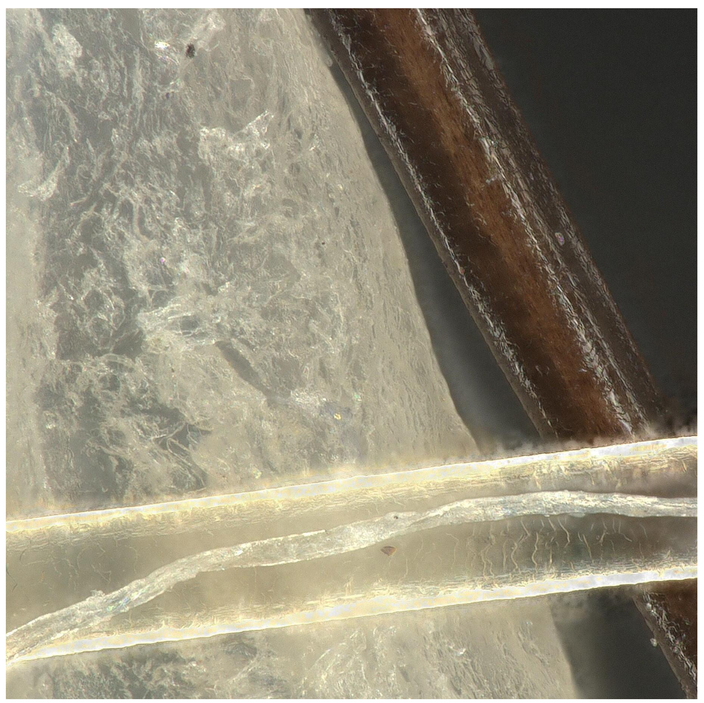
- The four images included on this poster are derived from different keratin samples (hair, eyelashes, nails)
- All the images were taken in 500x objective setting

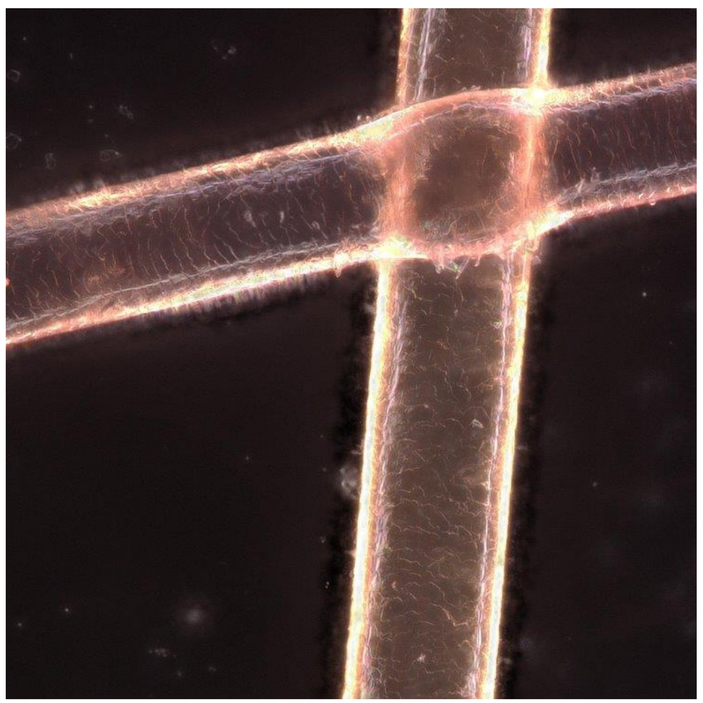
Conclusions

- This project gave me opportunity to image a range of samples and edit them to enhance artistic expression
- It was difficult to obtain clear images of the entire sample, especially as magnification got higher
- I found the best balance in resolution and magnification to be 500x
- As this project continues, one final image will be selected for the Nikon Small World Competition
- Bioart is a powerful tool that can be used to persuade and educate people (2)









These images were gathered at the National High Magnetic Field Laboratory.
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References

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