Microscopic BioArt

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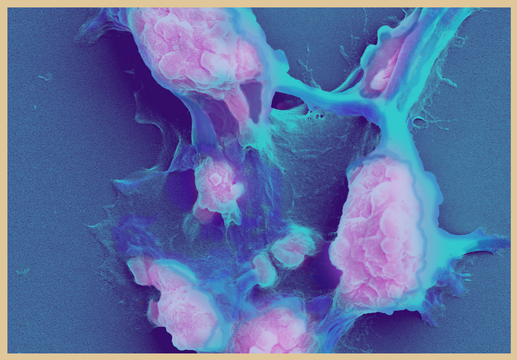
Abstract

In the contemporary art world, a new art movement has arisen. BioArt is a synthesis between the Biological Sciences and Visual Arts where individuals employ several scientific processes to illustrate the intersection between creativity and the natural world. For my research process, I employed various light microscopy techniques such as dark-field microscopy and phase-contrast microscopy to photograph artwork of various organisms and cell cultures. Additionally, by utilizing photo editing software such as Photoshop, I false-colored originally grayscale Scanning Electron Microscopy (SEM) images that were previously taken. The convergence of Biological Sciences and the Visual Arts helps encourage conceptual and introspective thinking surrounding scientific processes, emphasizing philosophical, societal, and environmental issues. Furthermore, BioArt plays an important role in stimulating scientific thinking, contributing to new technologies and research questions, and garnering excitement surrounding science as a whole.

Methods

Throughout this process, various light microscopy techniques were utilized to visualize various cell cultures and slides. By employing an optical microscope, visible light is transmitted through a sample and multiple lenses to procure a magnified view of whatever is being observed. This image can then be viewed directly by eye or in this instance, photographed by a camera. Under the umbrella of light microscopy are other techniques utilized to enhance visualization, contrast, and composition. One of these techniques is dark-field microscopy, which uses an aligned light source to minimize scattered light and only visualize light projected through the specimen.

Results



(From left to right) *Starry Night* rendition with vaginal tissue, Chlamydomonas video (bright-field), coated archaea video (dark-field), vaginal tissue (bright-field and dark-field), false-coloring of SEM image of rod-shaped hematite particles uptaken by MDS-MB 231 cell aggregates on silicon wafer.

Refrences

- Spencer, M. (1982). Fundamentals of Light Microscopy. Cambridge University Press.
- Yetisen, A. K., Davis, J., Coksun, A. F., Church, G. M., & Yun, S. H. (2015, November 23). Bioart. Trends in Biotechnology. https://www.sciencedirect.com/science/article/pii/S016777991500205X

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