

See what you've been missing.



# Oosight®

## Imaging System

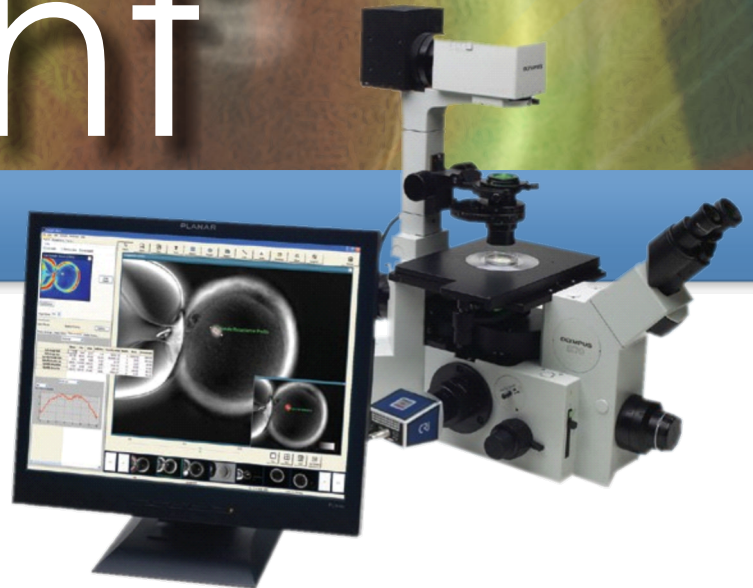
### Reveal Critical Structures in the Oocyte, Improve Grading, and Enable New Discoveries

Adding Oosight® to your lab can improve success by giving you a quantitative and reproducible method to measure biological disruption in either fresh or previously frozen oocytes. You can now select oocytes for ICSI and embryos for implantation, and use the system to help improve enucleation efficiency.

Understanding the oocyte is critical to understanding embryogenesis, and studies show that a disrupted spindle apparatus or a weakened zona pellucida in the oocyte can yield lower pregnancy rates. In fact, it has been shown that pregnancy is up to 8 times more likely when the inner zona pellucida is well-ordered.<sup>1</sup>

The unique and patented solid-state, liquid crystal technology is an easy add-on to your ICSI workstation. Oosight software runs on your computer to capture, display, and analyze your images. Snap an image and click a button to report the data. Meaningful data on molecular order within the sample are organized into an intuitive, exportable report. It's really that simple.

1. Shen Y, et. al. High magnitude of light retardation by the zona pellucida is associated with conception cycles. Human Reproduction, 2005 Jun; 20(6):1596-606.

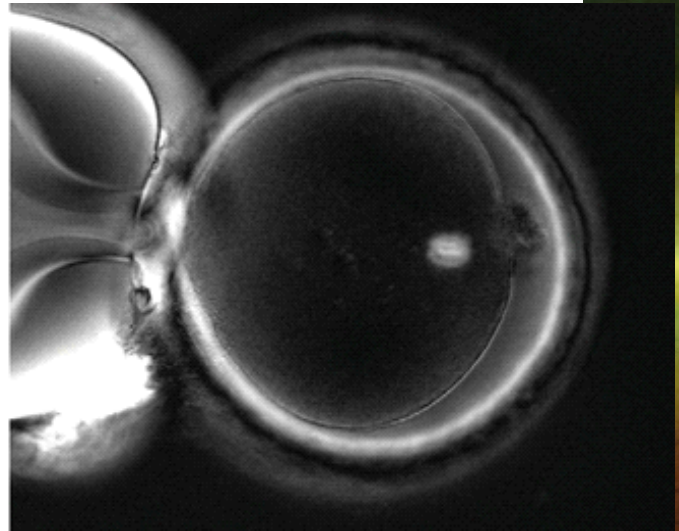
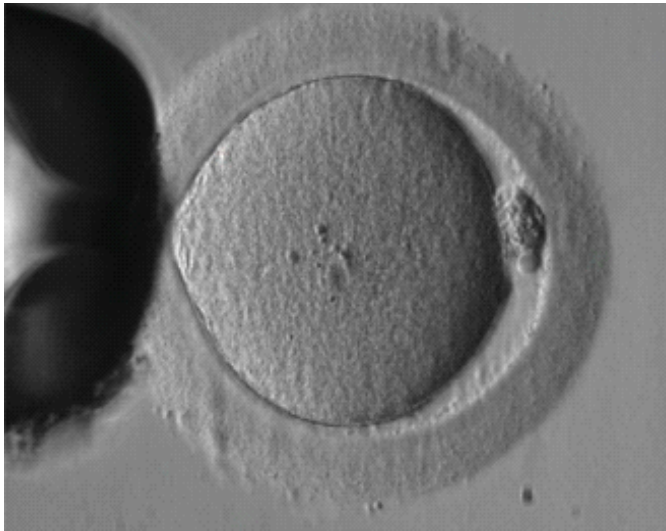


## Key Benefits

- **Unprecedented Resolution**  
High-contrast live images of the oocyte and spindle
- **Non-invasive Imaging**  
Does not require the use of any labels or stains, preserving the biology of the spindle and related structures
- **Quantitative Analysis**  
Tracks oocyte behaviour over time and automatically records data points of molecular density and orientation
- **Proven**  
Successfully used to image many different mammalian species for both enucleation and developmental studies



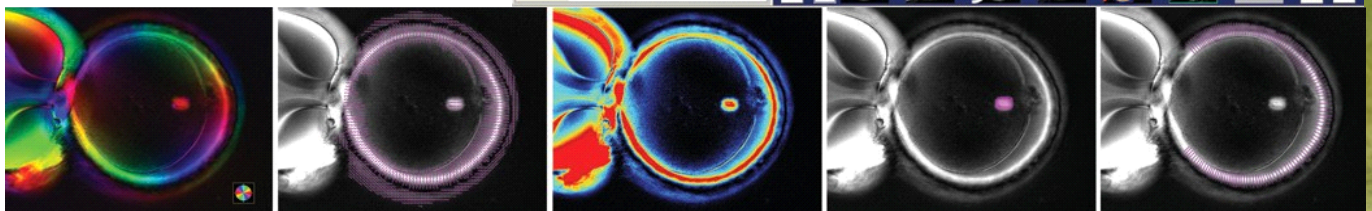
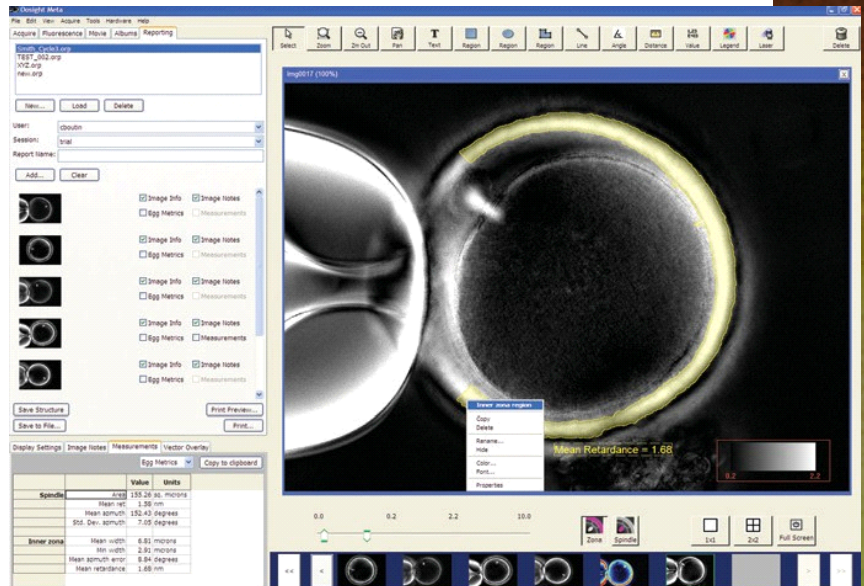
The Oosight® Imaging System is for research purposes only.



In a conventional contrast image (left) of a human MII oocyte taken just prior to ICSI, structures such as the spindle and multiple layers of the zona pellucida remain invisible. In an Oosight image (right) the spindle is clearly seen to be nicely barrel shaped and the three layers of the zona pellucida are all visible.

## Oosight outperforms all other systems.

No other contrast-enhancement technique delivers the performance of Oosight. With unprecedented resolution and calibrated setup, Oosight provides the sensitivity and reproducibility required of a grading routine, as well as the speed needed for micromanipulation.



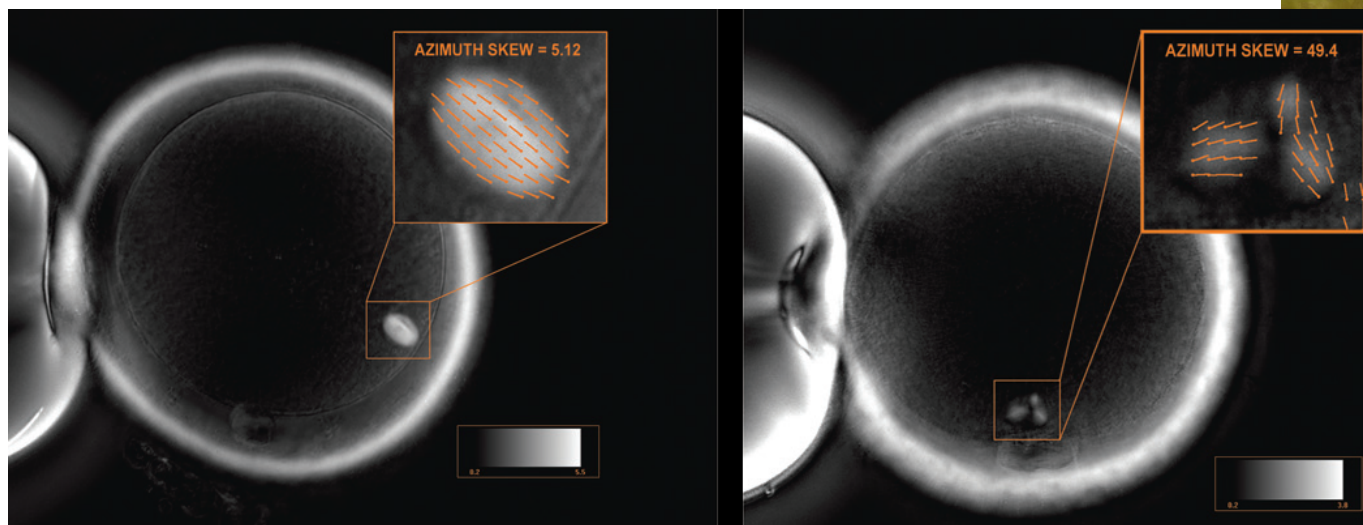
Oosight software visualization tools include (left to right): slow-axis orientation color map, orientation vector overlay, retardance color map, automated SpindleFinder™, and automated ZonaFinder™.

## Nuclear Transfer - No Staining Needed

With Oosight, you can remove the spindle in nuclear transfer techniques without using Hoechst dye DNA staining, thus minimizing damage to vital cytoplasmic organelles and ensuring complete spindle removal.

## Screening with Oosight can make all the difference.

Oosight enables you to determine which subpopulation of oocytes are at high risk for producing chromosomally abnormal embryos. Approximately 1 in 20 cycles contains oocytes that are immature but are nevertheless falsely labeled MII using conventional imaging techniques. Oosight can prevent the potentially damaging effects that result from injecting immature oocytes. The system can also help screen for oocytes with highly disrupted spindles, such as those that are multi-polar.



On the left, this human MII oocyte has a normal barrel-shaped spindle, while on the right, this human MII oocyte has an abnormal tri-polar spindle. Note that you can also measure the inner zona and spindle retardances with exceptional accuracy.

## Improve the efficiency of cryopreservation

Whenever a clinical application is known to alter the state of the biological material being used, it is imperative that checks and balances are in place to monitor the extent of that change. Oosight can help do this for cryopreserved oocytes by providing a method that helps ensure that vital structures in the oocytes are re-formed to their original pre-frozen state.

Visit our website for a list of current publications of Oosight use for a variety of applications including nuclear transfer, oocyte and spindle research, developmental biology and sperm analysis.

## Oosight Basic vs. Oosight Meta

|  | BASIC | META |
|--|-------|------|
| LC Compensator Optics                      | ✓     | ✓    |
| Circular Polarizer and Interference Filter | ✓     | ✓    |
| High Resolution CCD Camera                 | ✓     | ✓    |
| spindle for Your Microscope                | ✓     | ✓    |
| Image Capture Software                     | ✓     | ✓    |
| Automated SpindleFinder™                   |       | ✓    |
| Automated ZonaFinder™                      |       | ✓    |
| Reporting Tools                            |       | ✓    |
| Movie Capture                              |       | ✓    |

# Specifications

All specifications subject to change.

## Optical

Wavelength of operation 546 nm  
Spatial resolution Diffraction limited

## Electrical

Power source 5V 3A with universal input voltage adapters

## Image Acquisition

Image output format TIFF

## Scientific CCD Camera

Sensor size 1/2-inch diagonal  
Image size 1392 x 1024 pixels  
Pixel dimensions 4.65 x 4.65  $\mu\text{m}$   
Digital output 8-bit  
Binning modes 1 x 1, 2 x 2

## Computer Requirements

|                   | <u>Recommended</u>         | <u>Minimum</u>             |
|-------------------|----------------------------|----------------------------|
| PC Desktop/Laptop | i5, i7                     | Intel Penitum, 2 GHz       |
| Operating System  | Windows 8, 32- or 64-bit   | Windows 7, 32-bit          |
| Memory            | 4+ GB                      | 1 GB                       |
| Hard disk         | 250+ GB                    | 80 GB                      |
| Display           | 1920 x 1080, 1920 x 1200   | 1280 x 1024                |
| USB ports         | USB 2.0, 2 available ports | USB 2.0, 2 available ports |

## Microscope Compatibility

Oosight systems are compatible with many research-grade microscopes, including those made by Leica®, Nikon®, Olympus®, and Zeiss®. Contact us for a list of microscopes or for a configuration sheet for your microscope.

## Laser Compatibility

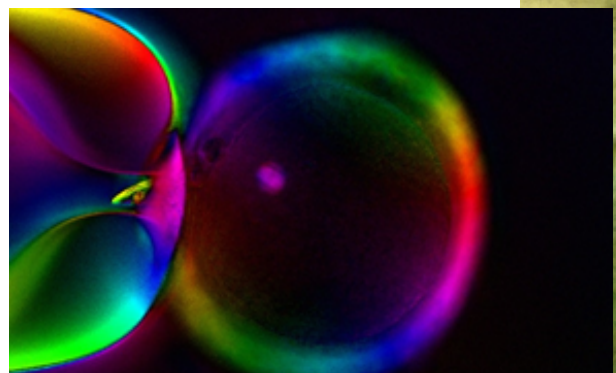
Hamilton Thorne XYRCOS, XYClone, LYKOS, ZILOS-tk,  
Others Research Instruments, Octax

## Accessories

Glass-bottom dishes Available from vendors such as: WPI, Willco Wells®, MaTek®  
Heated stages or chambers Available from Tokai Hit®, microscope manufacturers  
Strain-free microscope objectives Available from microscope vendors.  
Avoid using phase-contrast objectives.

## Environmental Requirements

Operating requirements Indoor  
Operating temperature 15 °C to 40 °C  
Operating humidity 65%, non-condensing  
Operating altitude 2000 meters  
Storage temperature -10 °C to 55 °C  
Storage humidity 100%, non-condensing  
Pollution degree 2



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