

## Espresso Ray 3D 1.1 - New 3D Viewer and Surface Analysis Tool for OS X

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ER3D Group today introduces Espresso Ray 3D 1.1, their new 3D viewer and surface generation analysis tool for OS X. Designed to work with DICOM images and other medical imaging formats, Espresso Ray supports 3D volumetric data, in addition to grayscale and color DICOM image volumes. Espresso Ray 3D allows users to complete a variety of common and complex medical imaging tasks, including the ability to quickly view, image, surface, and analyze data from MRI and CT.

Honolulu, Hawaii - ER3D Group today is proud to announce the release and availability of Espresso Ray 3D 1.1, their new 3D viewer and surface generation analysis tool for OS X. Designed to work with DICOM images and other medical imaging formats (namely nifti-1), Espresso Ray 3D supports 3D volumetric data, in addition to grayscale and color DICOM image volumes. Essentially, Espresso Ray 3D allows users to complete a variety of common and complex medical imaging tasks, including the ability to quickly view, image, surface, and analyze data from MRI and CT.

Following industry-standard principles for simplistic user-interface (UI) design, Espresso Ray 3D has utilized common principles that users are familiar with (such as multi-touch trackpad gestures) and deeply integrated these into the software. Espresso Ray 3D uses OpenCL, an industry-supported, heavily integrated technology designed to maximize performance of all computing tasks. With this technology, the software ensures full utilization of all of the computer's resources so users receive their results quickly.

Unlike the data-approach utilized by most medical software, Espresso Ray 3D uses a document-based approach to organizing files. To save time and effort for the user, Espresso Ray 3D stores all ER3D-related files in one place. This enables all 3D images, 3D surfaces, 3D landmarks, TPS results, and VOI painter results to always be secure and accessible.

### Feature Highlights:

- \* Simple and easy-to-use User Interface design
- \* Multi-touch trackpad gestures
- \* Rapid-segmentation and reconstruction of any structures
- \* Add-on toolkits available
- \* Threshold-based surfer extracts ISO-surfaces
- \* Volume-Of-Interest (VOI) painter tool
- \* GPU-accelerated imaging
- \* Built-in difference of Gaussian (d.o.g.) filter support
- \* ER3D file formatting
- \* Uses OpenCL to maximize performance of all computing tasks

For increased functionality, Espresso Ray 3D offers the Basic Analysis and Advanced Analysis toolkits, two add-on packages available for an additional purchase. The Basic Analysis toolkit allows Espresso Ray 3D to transform from a 3D imaging viewer into an analytical reconstruction studio. The Basic Analysis toolkit provides surfacing, imaging, VOI (Volume-Of-Interest) thresholding, and VOI masking. For rapid manual, more finely tuned segmentation operations, the Volume-Of-Interest (VOI) painter tool allows direct manipulation of the desired segmentation region. A three-dimensional thresholded spherical brush can be operated in any of the axial, coronal, or sagittal planes to achieve this manipulation. Once created, the VOI can be used to quickly generate 3D surfaces, or as a mask to the entire volume, eliminating all but the most important structures for study.

The Basic Analysis toolkit also enables validated calculations for volume, surface area,

and linear measurements. Additionally, output modes for volume export (to nifti-1), and surface export (to OBJ, STL, and iPad/iPhone via Verto Studio Mobile) are included. Algorithms are accelerated using state-of-the-art parallel processing on GPU hardware where available. GPU-accelerated imaging contains 3D Gaussian and Sobel filters, including built-in difference of Gaussian (d.o.g.) filter support. An optimized craniofacial segmentation tool designed to run on human head DICOM data is also provided in the Basic Analysis toolkit. A library of plastinated anatomical models is being compiled in ER3D format and is freely available through the [espressoray.com](http://espressoray.com) website.

The Advanced Analysis toolkit expands upon capabilities of the Basic Analysis toolkit, including surface landmarking capability in 2D and 3D, intra-landmark linear measurement PCA, procrustean alignment and averaging of individual files to form samples. Also included in the Advanced Analysis toolkit is a 3-Dimensional Thin-Plate-Spline (3D TPS) analysis that can perform morphometric strain comparison and warp application between individual landmarked surface files.

"These days, medical software tends to be bloated, overcomplicated, and not very easy to use," says ER3D Group partner, Michael Farrell. "Espresso Ray 3D exists to be as simplistic and to-the-point as possible for completing both common and sophisticated medical imaging tasks. Designed for CT and MRI modalities, possible applications of the software are virtually limitless. Espresso Ray 3D is an exciting product! We've delivered some of the most powerful tools that have ever been used to perform medical visualization, segmentation, and analysis."

**System Requirements:**

- \* OS X 10.7 or later
- \* 26.3 MB

**Pricing and Availability:**

Espresso Ray 3D 1.1 is only \$19.99 (USD) and available worldwide through the Mac App Store in the Medical category. The Basic Analysis Toolkit add-on is \$99.99 (USD). The Advanced Analysis Toolkit add-on is \$199.99 (USD). Review copies are available upon request.

**ER3D Group:**

<http://espressoray.com/bio.html>

**Espresso Ray 3D 1.1:**

<http://espressoray.com/>

**Application Tour:**

<http://espressoray.com/tour.html>

**Purchase and Download:**

<https://itunes.apple.com/app/espresso-ray-3d/id782102839>

**Video Demos:**

<http://espressoray.com/video.html>

**Application Icon:**

<http://a1.mzstatic.com/us/r30/Purple4/v4/93/5c/70/935c70ed-85a8-b73b-4057-7db320fff3c2/icon.175x175-75.png>

Based in Honolulu, Hawaii, the ER3D Group is a collaborative partnership of three

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individuals with a shared passion for engineering and research. Formed by colleagues from very unique backgrounds, the ER3D group strives to push the boundaries for what is possible on common computing hardware with common imaging formats. All Material and Software Copyright (C) 2014 / ER3D Group LLC. All Rights Reserved. Apple, the Apple logo, Macintosh and Mac OS X are registered trademarks of Apple Inc. in the U.S. and/or other countries. Other trademarks and registered trademarks may be the property of their respective owners.

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Michael Farrell  
Partner

[espressoray3d@gmail.com](mailto:espressoray3d@gmail.com)

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