Sally S. Agersborg, M.D., Ph.D.
Quest Diagnostics, Nichols Institute
San Juan Capistrano, CA

InScape:
Making Virtual Pathology a Reality
Quest Diagnostics, Nichols Institute – the world’s leading provider of anatomic pathology testing, information, and services

- Offering complete solutions from screening to diagnosis to post-therapeutic monitoring
- One of the most comprehensive enhanced anatomic pathology menus for the evaluation of cancer found anywhere in the industry
  - Cytogenetics/FISH
  - Flow Cytometry
  - Molecular Oncology
  - IHC/Morphology

Nichols Institute focuses on the esoteric anatomic pathology market with the introduction of new, novel, and differentiated products
- InScape™ Virtual Pathology

*InScape is a registered trademark of Aperio Technologies, Inc.*
Quantitative Image Analysis

Use pen tool to identify regions to be analyzed

Select algorithm to use
Traditional Microscopy

- Limited to manual analysis
- Cannot archive and/or retrieve slides easily
- Remote viewing not possible without additional expensive equipment
InScape™ Virtual Pathology

“The future of IHC today”

InScape™ Virtual Pathology is a proprietary service that provides pathologists with innovative and customized solutions for their IHC needs.

- Streamlines your workflow
- Increases your operational efficiencies
- Improves the quality of your pathology services
Available Tests

Any technical only IHC stain may be ordered with slides scanned into InScape™

- Allows viewing of digital images while awaiting receipt of glass slides
- Menu of >160 IHC stains

Quantitative image analysis is available for:

- ER, PR & HER2 (FDA cleared tests)
- Ki-67*, p53*

*Not for primary diagnosis
When you open a case, the following information will be displayed:

• Case Information and Demographics

• Case Documents

• Case Reports

• Case Specimens

• Clicking on the icon will open the digital slide data and launch ImageScope to view the slide image
Opening and Viewing Slides in ImageScope™

ImageScope is the image viewing software and resides locally on your computer

Summary of ImageScope functions

- Multiple viewing options (Pan, Zoom, Rotate)
- Snapshot & Save Images to your PC
- Annotations & Annotation Link Manager
- Extract Region
- Manual and Smart Synchronizing
- Image Analysis
- Report Region Tool
Navigating the Digital Slide Image

• The thumbnail displays where you are in the image at a higher power

• The filmstrip will display multiple selected images

• Left click and drag in the image moves the location of the magnified area

• Your mouse roller will zoom in and out

• The Zoom tool changes the zoom on the image

• Double clicking anywhere in the image or thumbnail takes you to the highest zoom of that area
ImageScope Smart Synchronization

- Allows simultaneous viewing of multiple stains on same tumor area
- All images zoom and pan together
ImageScope opens all 4 images in same area of the thumbnail.

All 4 images will move and zoom in synchronization.
Quantitative Image Analysis

- Use pen tool to identify regions to be analyzed
- Select algorithm to use
Save images for

- Reports
- Tumor board presentations
- And more
## Reporting

Customizable report template available within InScape™

### Pathology Report

**Report Date:** July 23, 2010

**Quest Diagnostics**
12345 Main Street
West Coast, CA 00000

**Phone:** 800-202-2002
**Fax:** 949-202-2009

<table>
<thead>
<tr>
<th><strong>Patient</strong></th>
<th><strong>Patient ID</strong></th>
<th><strong>DOB</strong></th>
<th><strong>Gender</strong></th>
<th><strong>Age</strong></th>
<th><strong>Physician</strong></th>
<th><strong>Phone</strong></th>
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</thead>
</table>

### History

**Right Breast Mass**

### Interpretation

**Additional Comments Here**

<table>
<thead>
<tr>
<th><strong>Collected Date</strong></th>
<th><strong>Received Date</strong></th>
<th><strong>Body Site</strong></th>
<th><strong>Procedure</strong></th>
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<tbody>
<tr>
<td>2009-01-01</td>
<td>2009-01-05</td>
<td>Right Breast</td>
<td>Biopsy</td>
</tr>
</tbody>
</table>

**ER**

**Positive**

**Score:** 3

The percentage of invasive tumor staining is $>90\%$ with an intensity of 3+ (Allred score 8).

**PR**

**Positive**

**Score:** 3

The percentage of invasive tumor staining is $>90\%$ with an intensity of 3+ (Allred score 8).

**HER2**

**Positive**

**Score:** 3+

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**Quest Lab Site: 1111**

**Signature: Dr. S. Agerberg**

**July 23, 2010**

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