

Developing a Corporate Education Lab Portal

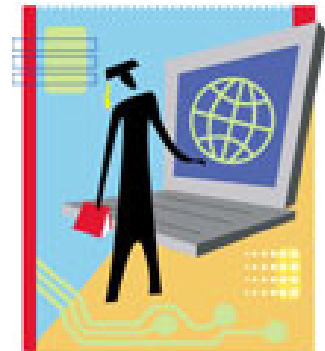
LabInfoTech Summit 2007

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The need for laboratory education

- 11 states require Medical Technologist certification and re-certification
 - California, Hawaii, Florida, North Dakota, Rhode Island, Tennessee, Louisiana, Nevada, West Virginia, Montana, Georgia and Puerto Rico

The law varies state-to-state, but include:

- A provision for continuing education (CEU)
 - A minimum education and professional competency requirement
- Education considerations
 - CLIA requires employee competency creating education needs in other states
 - PACE provides accreditation as governed by ASCLS
- Better education will improve lab testing
 - More lab business
 - Better patient care



Laboratory challenge - "do more with less"

- Perform more tests
- With less staff
 - Fewer Medical Technologist graduates
 - Retiring laboratorians
 - Difficult to recruit
- Need to maintain a qualified staff
 - Continuing education requirements
 - Competency requirements
- And "FYI" we're too busy...
 - Hard to allow employees time to go to seminars, even local ones
 - Travel time and costs may limit access
 - Fewer people in the lab get to access seminars when given



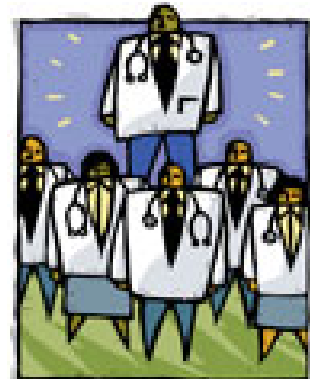
Web portals may be the answer

- Rapid and convenient training and education
 - Quick results, use anytime, anywhere
 - Easy to access - just login and start using
 - Easy to provide fresh content
- The corporate portal advantage
 - Many corporations provide content diversity
 - User choice when the content is similar
 - Existing web infrastructure and development and IT staff
 - Greater reach for improved “community”
 - Deliver once, educate many
 - Cost savings



To highlight just a few
corporate education portals...

...there are many more



Nikon "MicroscopyU"

- Content Rich MicroscopyU provides a variety of educational material on Microscopy technology
- Knowledge Database provides many informative resources for users to educate themselves
- Interactive Video Allows the user to read a lesson and then try the techniques on an interactive system

The screenshot displays the Nikon MicroscopyU website interface. At the top, there are navigation links for NikonUSA, NikonNet, MicroscopyU, NikonMall, and NikonSchool. The main header features the Nikon logo and the text "MICROSCOPYU The Source for Microscopy Education". Below this, there is a section for "Interactive Java Tutorials" with a sub-section titled "Basic Concepts and Formulas in Microscopy" and a specific tutorial titled "Microscope Alignment for Köhler Illumination".

The tutorial text explains that proper configuration of the microscope with regards to illumination is a critical parameter. It states that the intensity and wavelength spectrum of light emitted by the illumination source is of significant importance, and that even more essential is that light emitted from various locations on the lamp filament be collected and focused at the plane of the condenser aperture diaphragm. The tutorial reviews both the filament and condenser alignment procedures necessary to achieve Köhler illumination.

The interface includes a search bar, a navigation menu on the left with options like "MicroscopyU Site Map", "Small World Contest", "Microscopy Tutorials", "Digital Image Galleries", "Featured Microscopist", "Microscopy Museum", "Knowledge Database", "Screen Savers", "Where to Buy", and "MicroscopyU Home". There are also featured sections for "JAVA Tutorial", "Fluorescence Microscopy", and "Fluorescent Protein FRET Pair Combinations".

The main content area shows a virtual microscope viewport displaying a stained colon tissue specimen. Surrounding the viewport are several control sliders and buttons: "Filament Alignment", "Diaphragm Opening Size", "Condenser Height", "Specimen Fine Focus", "Full Aperture", "Condenser Aperture", "Condenser Alignment", "Condenser Lateral Adjustment", "X-Translation", and "Y-Translation". A "Choose A Specimen" dropdown menu is set to "Stained Colon Tissue", and there is a "Reset" button.

At the bottom, a text box explains that the tutorial initializes with a randomly selected specimen image appearing in the virtual microscope viewport and a variable amount of illumination passing through the optical train, which has an intensity level dependent upon the (randomized) initialization state of the lamp filament. Two windows are utilized by the tutorial, and they can be accessed (toggled) using the "Microscope Alignment" and "Condenser Alignment" buttons. The virtual microscope is

<http://www.microscopyu.com/>

<http://www.olympusmicro.com/>

Siemens

"Diagnostic University"

- Medical Seminar Series provides many educational resources on medical and laboratory technologies
- Listen to the course, repeat, advance or pause as necessary
- Obtain certificates

The image shows a screenshot of the Siemens Diagnostic University website. The top navigation bar includes links for Home, About Us, Getting Started, Classes, Seminars & Events, and Sponsored CME. A sidebar on the left contains a welcome message, a country selector (U.S.), and a list of categories: Integrated Systems (2), Chemistry (0), Urine (0), Miscellaneous (1), Hematology (1), Immunodiagnosics (5), Molecular (2), and Blood Gas (0). A featured seminar is titled "NEW! - BNP in the Evaluation and Management of Acute Dyspnea" with links for "View Seminar: Dial-up" and "High Speed". Below this, there is a text block about Dr. Müller's presentation on BNP testing, a link to a presentation, and a list of speakers: Alan Maisel, M.D., Dr. Alan Maisel, a cardiologist leader on heart failure and BNP of BNP in the diagnosis and m, Trends in Hepatitis Testing, Dwain L. Thiele, MD, Josef van Helden, MD, and Frank Wiens, Jr, PhD, DARCO.

Below the website screenshot is a presentation slide titled "Acute Dyspnea: Diagnostic uncertainty". The slide features a blue background with white text. It lists two bullet points: "Initial diagnosis correct in only 25-50% of pts. (Eur Heart J 1991;12:310, Lancet 1997;350:1349)" and "CHF false positive, CHF false negative". A central question is posed in a red box: "Heart or Lung?". The slide is part of a presentation by Prof. C. Basel, Switzerland, on B-Type natriuretic peptide in the evaluation and management of acute dyspnea. The presentation is displayed in a Microsoft Internet Explorer browser window, with a navigation pane on the left showing a table of contents with 23 items, including Introduction, Acute Dyspnea: Diagnostic Uncertainty, Intra-aortic Pressure, Acute Dyspnea, BNP Study, Study Algorithm, Baseline, Time to adequate therapy, Time to discharge, Hospital Admissions, ICU Admissions, Total Treatment Cost, In-Hospital Mortality, Conclusion, Interpretation of BNP, Impact of Renal Function, Sex & Age: Normal Values, and Sex & Age: Diagnostic Accuracy.

<http://seminars.diagnosticsuniversity.com/>

My experience ...

Bio-Rad's QCNet.com

- 1999 - QCNet is launched
 - for Bio-Rad customers to get laboratory Quality Control reports
- 2006 - QCNet is “re-invented”
 - for ALL labs seeking to improve Quality Control
- Successful...
 - 1 million+ monthly page views
 - ~77,000 monthly visitors
 - ~16,000 registered users (+3% monthly growth)
 - ~1,500 course “graduates”
 - ~750 monthly visitors to QCNet University
- Significant...
 - Vendor neutral education
 - Product specific information
 - Collaborative value
 - Reminder reach
- International
 - Localized to French, Italian, German, Spanish (others coming)
 - “Child-portals” provide local content and education of interest
 - 30% of QCNet users come from outside the US



www.QCNet.com

A few components of the QCNet education portal

- Home page
 - Quick look items
 - Easy to find
 - Technical articles from experts
 - Product education
- Education focus page
 - Competency
 - Training
 - Certification
- Technical support
 - Product education for efficiency of use
 - Eliminate issues early on
- Portal extensions
 - E-mails to remind busy laboratorians of important events
 - Webinars to provide convenient “live” education
 - Links to reference material and collaborative sites



Home sweet home

- Goal: provide instant value with home page educational content
- Objective: Get users to return
- Flash Video highlights new products and other useful info
- Did you know? provides quick informative "snippets" with call to action
- Can You Guess? provides a fun way to deliver education
- Expert Corner provides papers by recognized leaders

The screenshot shows the QCNet website home page. At the top left is the QCNet logo, and at the top right is the BIO-RAD logo. Below the logo is a navigation menu with links: Home, Unity™ Interlab™, LabTools™, EQAS™, QC Education, QC Documents™, Support™, and Lab Admin. The date Thursday, February 08, 2007 is displayed on the right. The main content area is divided into several sections:

- Language Selection:** Offers links for Français, Deutsch, Italiano, and Español. A note states: "All international sites are currently being updated and will be available in early 2007".
- Login:** Includes fields for Login ID and Password, a Login button, and links for Forgot Password and Register.
- Search:** Features a search box, a Go button, and links for "Search MSDS or Insert" and "Search Bio-Rad Website".
- Quick Links:** Lists links for MSDS, Product Inserts, Upcoming Events, QC Products, Surveys, Lab News, and Expert Corner.
- Did You Know:** A section with a blue water splash background and the word "liquid" in the center. Below it, the text reads: "Fibrinogen and Cardiac Risk Assessment". A red arrow points from the "Did you know?" text in the list to this section.
- Unity™ Interlab:** A section with a Unity logo and text: "No program in the world is more powerful and effective at providing information and improving laboratory analytical performance than Bio-Rad's Unity™ Interlaboratory Program. Tell me more >>". Below this is a "My Reports" button. A red arrow points from the "Did you know?" text in the list to this section.
- Can You Guess The Cell?:** A section with a circular graphic and text: "Learn how QC can improve test outcomes and have a chance to win a book by Dr. Westgard >>". A red arrow points from the "Can You Guess?" text in the list to this section.
- Expert Corner:** A section with a microscope icon and text: "Washington County Records Four Cases Of Drug-Resistant HIV". A red arrow points from the "Expert Corner" text in the list to this section.

QCN Net University™

Unity Real Time You are logged in as QSD Marketing (Logout)

QCNU ► URT

My courses

- Unity Real Time
- Unity Desktop
- UnityWeb
- ISO 15189
- All courses...

Administration

- Grades

Links

- Terms of Use
- Privacy Statement
- Feedback
- Contact

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Topic outline

Unity Real Time™

If you would like more information on how to install Unity Real Time, please contact your Bio-Rad Software Support Representative.

- Important Note about Unity Real Time Configuration
- Bio-Rad Laboratories Corporate website

1 Section One: Getting Started

Training Videos

- Introduction to Unity Real Time
- Exercise 1: Login
- Exercise 2: Navigation
- Exercise 3: User Permissions
- Exercise 4: Activation Keys
- Exercise 5 Setup Options

Quick Tip Sheets

- Unity Real Time Login Quick Tip


2 Section Two: Defining Lab

Training Videos

- Exercise 6: Lab Profile Setup
- Exercise 7: Lot Number Setup
- Exercise 8: Test Setup
- Exercise 9: Test Rules and Settings
- Exercise 10: Setting Up Panels

3 Section Three: Data

This service is brought to you by



Upcoming Events

There are no upcoming events

[Go to calendar...](#)
[New Event...](#)

This section contains the training sessions, quick tips,

- Goal: educate for competency, product knowledge, and certification
- Objective: provide lab competency
- Make it easy to use
- Select course
- Listen to training videos
- Observe quick tips
- Take progress quizzes
- Receive competency certificate

Bio-Rad Westgard Advisor (TM)

File Options Help

Existing QC Rules	Design QC Rules	Warning Rules
Analyte	Reject Rules	
Iron	1-5s	
LD (Lactate Dehydrog...	1-5s	
Lactic Acid	1-3s2-2s4-1s8-X	
Lipase	1-2.5s	
Magnesium	1-5s	
Magnesium	1-5s	
Potassium	1-3.5s	
Potassium	1-5s	
Potassium	1-4s	
Phosphorus	1-3s2-2s4-1s8-X	
Phosphorus	1-2.5s	
Phosphorus	1-2.5s	

Month	Level 1			Level 2		
	Mean	CV	# Points	Mean	CV	# Points
06/2005	57.8	2.98	6	236	0.992	6
07/2005	57.4	2.96	95	236	1.35	95
08/2005	57.3	2.40	97	235	1.16	95
09/2005	58.1	1.75	94	237	1.10	93
10/2005	58.9	2.16	99	239	1.22	99
11/2005	59.1	2.34	96	239	1.13	94
12/2005	58.0	3.21	96	235	1.56	96
01/2006	59.2	2.22	94	240	0.994	94
02/2006	58.7	2.19	88	240	1.21	87
03/2006	59.3	2.04	95	240	1.47	92
04/2006	58.4	1.99	32	237	0.812	31
05/2006	85.0	43.3	2	239	0	1

Server - (local) Database - QCDAO User - admin Copyright (c) 2006 Bio-Rad Laboratories, Inc. All rights reserved. US Patent #5,93

Technical support

- Goal: better product use for improved lab efficiency
- Objective: more satisfied customers
- Quick Tips provide easy to find answers to commonly encountered issues
- Feedback channel
- Knowledge Base provide detailed answers to *thousands* of technical issues
- Read and learn
- Sort and search helps user find content
- Reduce help desk calls

The screenshot displays the QCNet website interface. At the top, the QCNet logo is on the left and the BIO-RAD logo is on the right. A navigation bar contains links for Home, Unity™ Interlab, LabTools™, EQAS, QC Education, QC Documents, Support, and Lab Admin. Below the navigation bar, the page title is "Support » Unity Quick Tips" and the date is "Thursday, February 08, 2007".

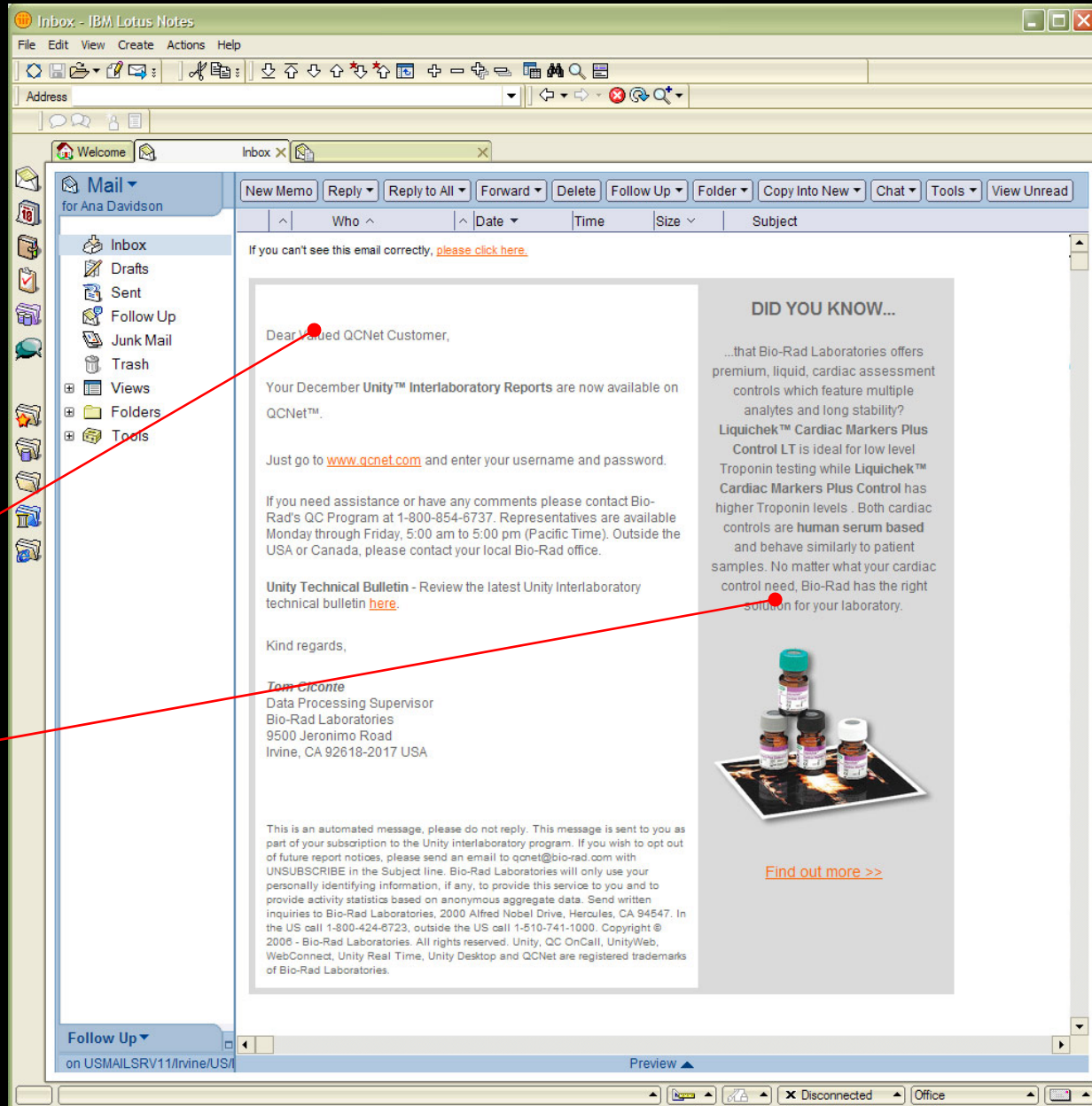
The main content area is divided into several sections:

- Login:** A form with fields for Login ID and Password, and buttons for Login, Forgot Password, and Register.
- Search:** A search bar with a "Go" button and links for "Search MSDS or Insert" and "Search Bio-Rad Website".
- Quick Links:** A list of links including MSDS, Product Inserts, Upcoming Events, QC Products, Surveys, Lab News, Expert Corner, and QCNet International.
- Unity™ Quick Tips:** A section titled "Unity™ Quick Tips" with a sub-header "Unity Quick Tips are fast and easy solutions to some of the most common issues you may occasionally face when submitting data to Unity". It lists "1- Missing Data?" and "2- New Lot Number?".
- Support Feedback:** A section with a headset icon and the text "Your feedback helps us provide better support for specific products by making the link".
- Knowledge Base:** A section titled "Knowledge Base" with a search bar and a list of search results. The results are categorized by "Product: Unity Real-Time" and "Products".

Red arrows point from the text in the left column to the "Quick Links" and "Knowledge Base" sections of the website screenshot.

E-mail education

- Goal: convenient reminders on topics of interest
- Objective: increase visitor traffic
- Convenient reminder that monthly lab reports are ready
- Did you know that there is some other useful web pages



Elsewhere...

- Education can be found *outside the corporate portal*
- Professional organizations
- Other corporate sites
- Events
- Other web resources
- Collect feedback, run surveys
- Webinars
 - Live education
 - Convenient to student and teacher
 - Interactive elements -- the ability to give, receive and discuss information

The screenshot displays the Lab InfoTech Summit website with several key elements circled in red:

- Navigation Menu:** A vertical list of links including "Building an Effective Laboratory QC System >>", "Interpreting Unity Interlab Reports >>", "Lab InfoTech Summit 2006 Lectures >>" (circled), "Basic QC Booklet >>", "3rd Party Controls >>", "ISO15189 Booklet >>", and "Metrological Traceability of Laboratory Test Results >>".
- Professional Organizations:** A section listing logos for the Clinical Laboratory Standards Institute (CLSI), ASCLS, PEC (public education connection), COLA, HIMSS (circled), and CLMA (College of American Pathologists).
- News Articles:** Several articles are visible, including "Texas AG Abbott Rules That State Law Permits Prison Officials To Mandate HIV Testing Among State Prisoners", "New Washington, D.C. HIV/AIDS Administration Director Pane Announces Initiatives To Fight City's Epidemic", "AIDS Memorial Quilt Should Be Displayed In Entirety To Raise Profile, Understanding Of HIV/AIDS, Letter To Editor Says", "WHO Cautions Thailand Against Issuing Compulsory License For Abbott's Antiretroviral Kaletra", and "Demand For Male Circumcision As HIV Prevention Method Growing In Swaziland".
- Lab InfoTech Summit Logo:** A logo featuring a stylized network of nodes and lines, with the text "labinfotechsummit" below it (circled).
- Upcoming Events:** A section titled "Upcoming Events" featuring a "2007 Webinars on Bio-Rad's New QC Software" and a "2007 AACC Annual Meeting & Clinical Lab Expo".
- Feedback Section:** A section titled "Give Us Your Feedback" with an email icon and the text "Your feedback helps us improve this site. You can enter your specific comments by clicking the link below. Thank you." and a "Feedback >>" link.
- Footer:** A navigation bar with links for "Home", "Unity™ Interlab", "LabTools™", "EQAS", "QC Education", "QC Documents", "Support", and "Lab Admin". Below this is a copyright notice: "Terms of Use Privacy Statement Feedback Contact Copyright 2006 Bio-Rad Laboratories, Inc. All rights reserved."

Don't forget product education

- Many visitors to QCNet want product knowledge
- Product knowledge benefits everyone
 - Use the system better
 - Improve lab results
 - Increase lab business
 - Better *patient care*
- Easy to acquire information
 - Unity bulletins
 - QC product insert pages
 - Material Safety Data Sheets (MSDS)
- Data reports
 - Unity interlaboratory comparison reports
 - InstantQC interlaboratory comparison reports

The screenshot displays the QCNet website interface. At the top, the QCNet logo is on the left, and the BIO-RAD logo is on the right. Below the logo is a navigation bar with links: Home, Unity™ Interlab, LabTools™, EQAS, QC Education, QC Documents, Support, and Lab Admin. The date 'Thursday, February 08, 2007' is shown in the top right corner. The main content area features a large banner with the word 'Liquid' and a water droplet. To the left of the banner is a 'Language Selection' menu with options for Français and Italiano. Below this is a 'Login' section with fields for 'Login ID' and 'Password', and buttons for 'Login', 'Forgot Password', and 'Register'. A 'Search' section is also present with a search box and a 'Go' button. The 'Did You Know' section features an article titled 'Fibrinogen and Cardiac Risk Assessment' with a red molecular structure image. To the right of the banner is a 'Unity™ Interlab' section with a 'My Reports' button circled in red. Other sections include 'MSDS Product Inserts Code Lists Method Guide Search QCNet Documents', 'Can You Guess The Cell?', and 'Expert Corner'.

Laboratory benefits of web-based education

- Lower training cost
 - Minimizes the need for classroom training resources
 - Eliminates travel cost and down-time
- Consistency and quality in training
 - Each student is presented with the same information
 - Increased subject matter retention
 - Assurance of a minimum standard of knowledge
 - Confidence that tests are administered properly
 - Continuing Education Units (CEU) available
- Flexible training
 - Anytime, anywhere, around the globe
 - Great for geographically dispersed lab groups
 - Requires only Internet access
 - Take classes/education during slow times



Student benefits of web-based education

- Good learning environment
 - Easy to use
 - OK to make mistakes
 - Resume where you left off
 - Anytime, anyplace, anyone
- Feedback is immediate
 - Eliminates the risk of misunderstandings
 - Print certificates online
- Suitable for training in an environment with many interruptions



Corporate benefits of web-based education

- More educated customers means lower support cost
- More educated customers means more informed purchase decisions - they get more of what they want
- More educated customers means more customer satisfaction - and they might buy more



The vision

- Greater reach to more users
- Broaden the topics of interest
- Allow users to post moderated content from their papers
- Provide more education material from technical experts
 - Laboratory experts
 - Industry experts
 - Education leaders (University & professional orgs)
- Further cooperation with vendors and institutions
- More interest through rich media content
 - Flash animations
 - Streaming video



Try it out...

<http://www.qcnet.com>

User ID: labinfotech

Password: 2007

Click on: QC Education/QCNet University™

Please let me know what you think:

steve_still@bio-rad.com





Thank You!