



VirtualScopics Adds VP Marketing and Business Development



VirtualScopics is pleased to announce the appointment of Regina Sutton as Vice President Marketing and Business Development.

Regina joined VirtualScopics in February after spending the past 9 years in executive leadership roles in Australia. She has held senior sales positions in global technology companies such as Eastman Kodak, General Motors, IBM and Telstra.

Regina brings a strong international perspective to the company and proven successes in streamlining business operations across the entire customer experience.

Ron Way: Director of Operations

VirtualScopics also welcomes new Director of Operations, Ron Way.

Ron brings a wealth of experience to the team having spent over 25 years directing manufacturing operations domestically and internationally.

Ron is Lean Six Sigma Black Belt certified and will be tasked with further accelerating process improvements in order to streamline and scale VirtualScopics' operations.

These additions will greatly strengthen our management team and provide our sponsors with an even stronger solution.

Ask Ed: How do vascular changes seen in tumors using DCE-MRI relate to clinical endpoints?



Ed Ashton, PhD
Chief Scientific Officer
VirtualScopics, Inc.

A number of studies have attempted to address this question, with somewhat mixed results. Flaherty *et al.* have shown early changes seen with DCE-MRI to be predictive of progression-free survival in renal cell carcinoma patients (Cancer Biology & Therapy 2008). These results are contradicted by those of Hahn *et al.*, who show no such relationship in a study of 44 renal cell carcinoma patients (JCO 2008). VirtualScopics has completed a meta-analysis of 13 Phase I and II clinical trials comprising a total of 156 patients and has shown that early DCE-MRI changes are highly predictive of later changes in tumor burden measured using CT (ISMRM 2009, Abstract 806). A useful overview of studies comparing DCE-MRI changes to clinical endpoints has been provided by O'Connor *et al.* (British Journal of Cancer 2007). These divergent results can be explained by a number of factors. First, differences in acquisition and analysis techniques can cause measurement variability (and thus predictive power) to vary widely among studies. Estimates of scan-rescan variability in the measurement of DCE-MRI parameters using different techniques have ranged from less than 10% to greater than 25%. The same patient population that yields statistically significant predictive power with an 8% coefficient of variability may well have no predictive power at all with a 25% CoV. Second, the ability of a mechanistic biomarker like change in K^{Trans} to predict clinical response will vary with the dependence of the experimental drug on the mechanism being assessed. To take an extreme example, successful radiotherapy often *increases* K^{Trans} measurements in the short term. The answer to this question, then, is that short term changes in vascular parameters can be predictive of later changes in clinical endpoints – with the caveats that the imaging and analysis must be carried out with high precision, and the therapy being assessed must have a direct effect on tumor microvasculature.

Free Webinar May 4: Introducing: VirtualScopics & PPD



On May 4 VirtualScopics and PPD will collaborate on a free webinar that discusses their recent strategic alliance and presents the numerous benefits this joint solution offers to sponsors.

The webinar agenda includes:

- Considerations that drove this alliance
- Benefits of the alliance—cost and time efficiencies
- How the companies have integrated to create the above benefits
- The services and experience available through the alliance

The webinar is part of VirtualScopics' 2011 Educational Webinar Series. To register for this or any other webinar, please click [here](#).

To learn more about the strategic alliance and its potential benefits to you, [download this informational piece](#), or [visit our web site](#).

For more information on **VirtualScopics'** technology or services, please contact us at +1 585-249-6231 x206 or chris_gilman@virtualscopics.com.



Upcoming Conference Schedule

To contact us prior to schedule an on-site meeting at your convenience:

[Contact VirtualScopics](#)

[ISMRM - Annual Meeting](#)

Montreal, Quebec, CA
May 7-13, 2011

[ASCO](#)

Booth # 22036
Chicago, IL
June 4-8, 2011

[DIA](#)

Booth # 1229
Chicago, IL
June 19-23, 2011

[Complete 2011 Conference Schedule](#)

Upcoming Webinars

April 20: Measurement of Fat & Muscle Using CT & MRI

May 4: Introducing: VirtualScopics & PPD

May 18: Assessing Central Nervous System Studies Using CT & MRI

June 1: Assessing Early Treatment Effects of Anti-TNF Therapy

June 15: Integrating Functional & Structural Imaging in Clinical Trials

To register for any webinar, please click [here](#).

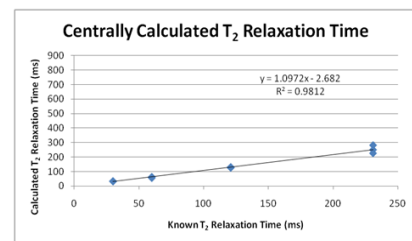
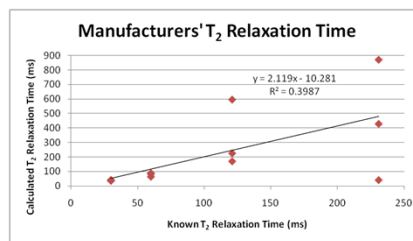
Ask Jon: The Importance of Central Reads for Quantitative Imaging Measurements



Jon Riek, PhD.
Chief Technical Officer
VirtualScopics, Inc.

In a multi-site clinical trial, there are several options available to the sponsor when considering quantitative imaging measurements. Sometimes, the simplest option is to have the imaging sites perform the measurements themselves. This can save time and money as the images do not need to be sent from the imaging site to the entity performing the central reads. This method may be appropriate for some measurements, but in general, it adds variability to the measurement. This can compromise the validity of the study as the variability introduced may render the study underpowered. Employing a central read, where there is consistency in the training, process and software employed by the reader, can substantially reduce the variability.

Consider the case of measuring T₂ relaxation time in cartilage. The major manufacturers all have sequences that can be utilized to calculate T₂ relaxation time. They also provide software that can calculate a T₂ map at the site, which can be used for quantitative measurements. The following illustrates the difference between the T₂ relaxation times obtained from the T₂ map provided by the manufacturer and the T₂ relaxation times that can be obtained from a central review. Four phantoms with known T₂ relaxation times (30ms, 60ms, 121ms and 231ms) were scanned on three different magnets that provide a T₂ map. The two graphs (Figures 1 and 2) show the T₂ relaxation times calculated from the manufacturer-provided T₂ map and a centrally calculated T₂ map. The average coefficient of variation (COV) in the T₂ relaxation times calculated from the manufacturer-provided T₂ maps is 47%. The average COV of the centrally calculated T₂ relaxation times is 5% (about 1/10th the variability).



This illustrates the importance of utilizing consistent software for quantitative imaging endpoints.

Got a question? Ask VirtualScopics!

Let us know how we're doing. What do you like? What would you like to see improved?

[Contact VirtualScopics](#)