

**December 6, 2019 - Fort Collins, CO, US**

Remaining in Ft. Collins, we are now located at 375 E. Horsetooth Rd., Bldg. #2, Suite 100, not far from the junction of College Avenue and E. Horsetooth Rd.

With nearly twice the room as our former office, we have now dedicated training space for our QRA courses as well as more room for our team. The new office is conveniently located near hotels for visitors and course attendees.

If you're in the area, stop by to say hello!

**October 16, 2019 - Boulder, CO, US**

A commentary by our team, [recently published in The Lancet](#), has gotten a lot of attention, including an [interview by the BBC Radio](#). The EpiX team performed an independent review of the modeling of mortalities avoided by the new diet proposed in the EAT-Lancet Commission report which revealed several methodological issues and mistakes.

According to Francisco Zgmutt: "The BBC interviewer focused on the impact of the issues we found in the study, and how they affected the findings of the authors of the EAT-Lancet Commission report. We explained that by properly modeling the statistical uncertainty in key model parameters, together with correctly adjusting by the effect of over and underweight, we could not find a statistically significant difference in projected avoided mortalities between the report's proposed diet versus the status quo diet for the USA. We encourage the authors to share the full code and databases for their analysis so that we can understand the reason for these differences. We are currently working on a peer-reviewed publication describing our findings."

**May 6, 2019 - Boulder, CO, US**

[Dr. Solenne Costard](#), senior consultant at EpiX Analytics, was interviewed in a [magazine article on African Swine Fever \(ASF\)](#). The article discusses the ongoing ASF epidemic in Asia, where its rapid spread is causing devastation to the pig industry and affecting the global pork market. Solenne explained why the disease is so hard to control, why it requires tight collaboration between the pig industry and government authorities, and how human behavior can affect the spread of the disease.

If you are interested in learning more about ASF, Solenne has co-authored several scholarly articles in [ASF epidemiology](#), [risk assessment](#), and [epidemic modeling](#) that can help you put this outbreak in perspective.

**April 25, 2019 - Boulder, CO, US**

As we discussed in an earlier [news article](#), focusing solely on p-values when performing statistical analysis can be misleading and doesn't make best use of all the information in the data. These concepts have been further reinforced in a recent [special issue](#) in The American Statistician journal titled [Statistical Inference in the 21st Century: A World Beyond  \$p < 0.05\$](#) . Their recommendations were [summarized by the editors](#) as follows, "We summarize our recommendations in two sentences totaling seven words: Accept uncertainty. Be Thoughtful, Open, and Modest. Remember ATOM." Much of what's proposed by the editors is fundamental to the practice of risk analysis, where the explicit [modeling of uncertainty](#) and the use of more diverse and flexible [statistical distributions](#) has been advocated for decades, so we certainly agree with their recommendations.

With the availability of modern methods such as [Bayesian statistics](#) and [Monte Carlo simulation](#), we have much more flexibility to produce results that are relevant to our audience. In our case, being a consultancy we are typically asked to use modeling to support decisions that affect an institution's goals, so rather than using p-values we talk about confidence in the superiority or optimality of different actionable options, rankings between them, and the magnitude and impact of those options. A hypothetical example could be to inform if option A is better than option B to reach a company's growth target based on an analysis of the means using historical data. Using a one-sided test ( $A > B$ ) one could only say, "we reject the null hypothesis that  $A=B$ , ( $P < .05$ )", and perhaps state that option A yielded an average \$5M more revenues than option B. At this point we would be escorted out of the client's offices as this information would be largely useless to the decision maker. If we instead use Bayesian methods, an alternative answer could be "based on historical information we are 99% confident that your revenues will increase by at least \$5M if you stay with

option A...but there is also a 25% chance that future revenues would be higher if you implement option B". With this information together with the costs of each option and the risk appetite of the institution, we can incorporate a decision-analytical framework to help the institution decide what's the optimal option. Furthermore, one can then use simulation methods to create different scenarios going forward and see how the conclusions from historical data could be affected by variables we might encounter in the future. We invite you to review [ModalAssist](#), which includes a repository of freely available [applied example models](#) illustrating these and other principles.

### **January 29, 2019 - Boulder, CO, US**

[Dr. Kurt Rinehart](#), senior consultant at EpiX Analytics, will be presenting at the SDP annual conference (known as the DAAG conference). This year's conference is focused on data and decision-making. Dr. Rinehart will speak about some of the great opportunities and challenges of enhancing the decision-making process with analyses and models that are based on empirical data.

The [DAAG 2019: Data + Decisions Conference](#) will be held from March 5-8, 2019, at the Grand Hyatt in Denver, CO. Dr. Rinehart will speak during the "Energy Panel: Leveraging Data to Make Great Decisions", Friday March 8 at 9 a.m.

### **May 18, 2018 - Boulder, CO, US**

[Dr. Francisco J. Zagmutt](#) has been invited to present at the June 26th [Reciprocation Sessions](#) of the American Meat Science Association meeting.

His presentation entitled, "Quantifying Antimicrobial Resistance Attributable to Beef & Putting it in Perspective", will cover EpiX Analytics' ongoing research in quantifying antimicrobial resistance in foods, and will provide perspective on how multiple sources of resistance contribute to the overall antimicrobial resistance burden in humans.

### **May 15, 2018 - Boulder, CO, US**

[Dr. Francisco J. Zagmutt](#), Managing Director at EpiX Analytics, has been appointed as one of the 18 new members to the [National Advisory Committee on Microbiological Criteria for Foods \(NACMCF\)](#). The committee has played a fundamental role providing impartial scientific advice to federal agencies. According to the committee's [website](#), "NACMCF reports provide current information and scientific advice to federal food safety agencies and serve as a foundation for regulations and programs aimed at reducing foodborne disease and enhancing public health."

Dr. Zagmutt is honored to join the NACMCF and will serve a two-year term in the capacity of providing expert advice to the US Departments of Agriculture, Health and Human Services, CDC, and several other agencies on the safety of domestic, imported and exported foods.

### **April 17, 2018 - Boulder, CO, US**

EpiX Analytics has published a paper in the April issue of ISPOR's (International Society for Pharmacoeconomics and Outcomes) Value & Outcomes Spotlight journal, entitled [Stochastic Modeling in Health Economics and Outcomes Research: Common Mistakes and How to Avoid Them](#).

According to [Dr. Huybert Groenendaal](#), the lead author of the article, "Very often the common mistakes in stochastic modeling occur because, at first intuition, the incorrect approach seems logical. In this article, we describe why such approaches are incorrect and provide the logical thinking behind the correct approach. We hope that this article helps prevent common mistakes and raises the quality of future stochastic assessments in health economics and outcomes research".

### **March 28, 2018 - Boulder, CO, US**

At the [IAFP 2018 Annual Meeting](#) in Salt Lake City, [Dr. Solenne Costard](#) is part of the organizing committee for a *roundtable discussion* on July 10th, at 10:30 AM - 12:00 PM (Rm 250 A-C). The discussion, entitled [Antimicrobial Resistance: Current Knowledge and Steps Toward Understanding the Relative Role of Food and Other Resistance Sources](#), will seek to raise awareness within the food industry about the role of foods in the AMR issue, and will propose future steps in prioritizing research and surveillance, and communication around this important issue.

[Dr. Francisco Zagmutt](#) will be one of the six panel experts representing the food industry, government, and research. Participation from the audience will be encouraged by the session facilitators.

Stop by to take part in this lively discussion!

### **March 28, 2018 - Boulder, CO, US**

EpiX Analytics consultants will offer two presentations on July 9th at the [IAFP's 2018 Annual Meeting](#) (July 8-11), in Salt Lake City, UT.

[Dr. Solenne Costard](#) will offer her presentation, [Assessment of the Relationship between Foodborne Illnesses Due to Beef Contaminated with Antimicrobial Resistant Bacteria and Prophylactic Use of Antimicrobials in Beef Cattle](#), at 8:30 AM - 8:45 AM, July 9 (Rm 151 D-F). Prophylactic use of antimicrobials in food production animals is often cited as one of the drivers of antimicrobial resistance in humans, but we lack studies that prove this link using national-level estimates. In her talk, Solenne will discuss how US surveillance data was used to investigate the potential link between prophylactic use of tetracycline and tylosin in beef cattle and human illnesses caused by the consumption of beef contaminated with antibiotic-resistant pathogens.

[Dr. Francisco J. Zagmutt](#) will make a presentation on July 9th, at 9:15 AM - 9:30 AM (Rm 150 A-C+G), entitled [Quantitative Antimicrobial Risk Assessment: Data Gaps to Put Animal Source Foods in Perspective](#). His talk discusses the use of risk assessment methods to identify data availability and gaps to quantify foodborne pathogen antimicrobial resistance attribution from animal source foods to humans.

Please stop by and introduce yourself! Drs. Costard and Zagmutt would be glad to meet you.

### **February 26, 2018 - Boulder, CO, US**

EpiX Analytics has published two papers in the journal Food and Chemical Toxicology which demonstrate a novel approach to quantifying our dietary intake of certain compounds when we eat meat. These compound groups, polycyclic aromatic hydrocarbons (or PAHs) and heterocyclic amines (HCAs), are important to study because they may contribute to risks for certain cancers.

According to [Dr. Jane Pouzou](#), the lead author of the articles, "These studies show the uncertainty around what we know about our dietary intake of these compounds even when we combine many different studies of concentrations. Because of this uncertainty, differences between consumers' exposures may not be as large as some studies suggest. We also found that, where differences in exposure are present, the greatest driver is the way that foods are cooked, more than the type of food itself. This finding may be important for consumers hoping to reduce their exposures to these compound groups from their diet."

Our way of analyzing these exposures improved on other studies by looking at a bigger picture of meat consumption and better quantifying how much we do and don't know about the levels of PAH and HCA in our foods. The two papers are freely available to read [here](#) and [here](#).

EpiX Analytics - Sound answers for complex decisions

### **October 30, 2017 - Boulder, CO, US**

Last month, consultants at EpiX Analytics co-authored the cover article in Solver International called "Risk Analysis: A breath of better decisions and success". The article and a free copy of the full magazine can be found at <http://viewer.zmags.com/publication/634ec228#/634ec228/14>.

'The article describes the value of using risk analysis to improve decision making in organizations, and discusses some of the key steps and output in analyzing, monitoring and managing risk', says Dr. Huybert Groenendaal, co-author of the article and managing director at EpiX Analytics. 'As we conclude in the article, "...what separates successful businesses from those that fail is the attention to risk and the capability to manage it". We hope this article will make more organizations aware of the great value that risk analysis can provide'.

EpiX Analytics - Sound answers for complex decisions

### **November 3, 2017 - Boulder, CO, US**

[Dr. Jane Pouzou](#), quantitative health risk analysis consultant at EpiX Analytics, will be giving an oral presentation at the Society for Risk Analysis [Annual Meeting](#) this December. Her presentation entitled, "[Comparative dietary exposure assessment of selected heterocyclic amines and polycyclic aromatic hydrocarbons through meat and bread consumption in the United States](#)", will take place during the Dec. 12th session and will discuss a novel probabilistic analysis carried out by the EpiX team, assessing how different dietary options and substitutions affect exposure to PAHs and HCAs.

### **November 2, 2017 - Boulder, CO, US**

EpiX Analytics will be making two presentations at [Palisade's Risk Conference in Nashville](#).

Interested in how to incorporate various sources of data in a model? Be sure to attend [Francisco Zagmutt's](#) 11/15/17 presentation entitled, "[Can you mix apples and oranges? Populating your models with diverse sources of information](#)".

Interested in getting more value out of @RISK? Plan to attend [Huybert Groenendaal's](#) 11/16/17 presentation entitled, "[Getting more value out of @RISK: Lessons from several case-studies](#)".

Stop by and say hello. Francisco and Huybert would be happy to chat with you.

### **August 3, 2017 - Boulder, CO, US**

EpiX Analytics will present at Palisade's half-day Risk Analysis Conference at the [Hilton Garden Inn Denver Downtown](#) on September 14, 2017 and at the [Denver Marriott Westminster](#) on September 15, 2017.

At Palisade's Sep. 14th event, [Dr. Francisco Zagmutt](#) will give a presentation entitled, "How to model what we don't (exactly) know: real-world examples of modeling parameter and model uncertainty with @RISK".

[Dr. Huybert Groenendaal's](#) presentation on Sep. 15th is entitled, "Lessons from two case-studies: How to Build Accurate and Decision-Focused @RISK Models".

### **July 5, 2017 - Fort Collins, CO, US**

[Dr. Lori Wiles](#) has joined the EpiX Analytics team as a Quantitative Risk Analysis Consultant in our Fort Collins Office.

Lori has worked with government agencies and private companies on implementing data-driven decisions using data mining, simulation and mathematical optimization. Her work embraces all aspects of decision analysis, from assisting clients in the identification of key decisions for analysis, to designing and programming decision support software.

Stop by our Fort Collins office to meet Lori!

### **August 2, 2017 - Boulder, CO, US**

EpiX will attend the [21st International Epidemiology Association's World Congress](#) that will convene at Sonic City, in Saitama, Japan, on August 19-22, 2017.

[Dr. Francisco Zagmutt](#) will present EpiX' research work titled, "Comparative dietary exposure assessment of selected heterocyclic amines and polycyclic aromatic hydrocarbons through meat and bread consumption in the U.S".

If you are attending this event, stop by and say hello!

### **May 5, 2017 - Boulder, CO, US**

EpiX team members have published a [peer-reviewed article](#) assessing the risks of consuming raw (unpasteurized) milk and cheese, in the Emerging Infectious Diseases Journal. [Dr. Solenne Costard](#), senior consultant at EpiX Analytics and lead author of the article explains, "We wanted to base our estimates primarily on published outbreak surveillance data. This allowed us to obtain risk estimates that relied on trustworthy sources of data, and to minimize the number of assumptions in our analysis. This study clearly shows that consuming raw milk and cheese poses a significant food safety risk, that is easily avoidable by consuming pasteurized milk products. We hope that this work helps consumers make safe choices when it comes to dairy products".

### **April 6, 2017 - Boulder, CO, US**

Obtaining protection against financial losses such as drought, heatwaves and typhoons is often difficult or impossible for small firms in developing countries. Index insurance, a relatively new insurance product, is an alternative financial instrument that can provide a low-cost risk management solution. While index insurance has a clear potential to improve resilience and risk management for vulnerable populations, it is often perceived as complex and difficult to be evaluated.

In an effort to address this need, [Dr. Huybert Groenendaal](#), managing director of EpiX Analytics, worked together with The World Bank on a handbook that takes a hands-on risk modeling approach to appraise named peril index insurance products. Other EpiX Analytics members, including [Dr. Rinehart](#) and [Dr. Zagmutt](#) also contributed to several sections of the handbook. EpiX Analytics co-authored the handbook as part of its efforts to [give back](#).

The full handbook is freely available from [The World Bank website](#).

### **January 17, 2017 – Fort Collins, CO, US**

EpiX Analytics recently opened a new office in the heart of downtown Fort Collins, CO. Located in the historic Kissock Building, situated in the old town area of Ft. Collins at 117 E. Mountain Ave. If you are in the vicinity stop by to say hello. We're in suite 225.



### **January 31, 2017 - Boulder, CO, US**

By invitation of the National Cattlemen's Beef Association, [Dr. Francisco J. Zagmutt](#), Managing Partner at EpiX Analytics, will attend the [Beef Industry Safety Summit](#) that will take place in Houston, TX on February 28 to March 2, 2017. Dr.

Zagmutt will give a talk focusing on current methods and challenges to model antimicrobial resistance transfer between animals and humans

**October 25, 2016 – Boulder, CO, US**

[Dr. Francisco J. Zagmutt](#), Managing Partner at EpiX Analytics, will present at [Palisade's Risk Conference 2016](#) in New Orleans, Nov. 1-2, 2016. Dr. Zagmutt's presentation is, How to model what we don't (exactly) know: the real-world examples of modeling parameter and model uncertainty with @RISK. The conference is being held at the Hilton Riverside Hotel and Conference Center in New Orleans.

If you plan to attend the conference, please stop by and say hello!

**June 13, 2016 – Boulder, CO, US**

EpiX has taught classes for the [Institute for Statistics Education](#), for the past 10 years. The Financial Risk Analysis course begins on June 24th and is composed of four lessons, each lasting one week. Information and registration can be found at [www.statistics.com/financial-risk-modeling](http://www.statistics.com/financial-risk-modeling).

**June 9, 2016 – Boulder, CO, US**

[Dr. Huybert Groenendaal](#), Managing Partner at EpiX Analytics, will speak at [the Palisade Risk Conference in Amsterdam](#), the Netherlands, on June 14, 2016. His afternoon presentation will be, *Lessons from @RISK case-studies: How to Build Accurate and Decision-Focused @RISK Models*. Here is a link to the [conference agenda](#). Huybert will be happy to meet with you if you are attending the conference; please [let us know](#) if you are going.

**May 16, 2016 – Boulder, CO, US**

The first annual [Foodborne Outbreak Challenge](#) was a big success on April 1, 2016. Organized by the [Colorado Integrated Food Safety Center of Excellence](#) of the Colorado School of Public Health, the event was held at the CU Anschutz Medical Campus in Aurora, CO. Students collaborated across disciplines on a mock outbreak investigation and addressed issues in food safety.

The funds donated by EpiX Analytics provided a scholarship to the First Place winning Blue Team, composed of Maggie Weinroth of CSU, Catherine Davis of CSU, and Caroline Ledbetter of CU.





*Photo Credit: CU Denver*

### **April 7, 2016 – Boulder, CO, US**

The American Statistical Association's (ASA) recently-released draft statement on statistical significance and p-values (<http://amstat.tandfonline.com/doi/pdf/10.1080/00031305.2016.1154108>) is an excellent touchstone of caution about an all-too-real problem: **Statistical significance and p-values, usually derived from null hypothesis testing (NHT), can be terribly misleading when interpreted as measures of evidence.** The less an analytical problem resembles a controlled laboratory experiment, the less useful and more misleading p-values become. This problem is exacerbated by poor analytical techniques and the intentional and unintentional selectivity in analysis and reporting. "P-hacking" is the practice of intentionally manipulating the data and analysis until you hit on a "significant" p-value. The term "garden of forking paths" refers to the myriad decisions made in data processing, measurement, analysis that unintentionally and indirectly influences results ([http://www.stat.columbia.edu/~gelman/research/unpublished/p\\_hacking.pdf](http://www.stat.columbia.edu/~gelman/research/unpublished/p_hacking.pdf)).

The problem is that researchers, reviewers, publishers, and journalists are far too willing to accept "p<5%" results as evidence for some claim. This leads to erroneous public policy as well as misleading reports in prestigious journals and in the popular press. In their review of cancer-risk studies of common foods, [Schoenfeld and Ioannidis](#) (2013) summarize the very problem the ASA hopes to address: "Associations with cancer risk or benefits have been claimed for most food ingredients. Many single studies highlight implausibly large effects, even though evidence is weak." Some substances do cause cancer, but robust identification of cancer risks is often beyond the capabilities of many studies.

Given the complexity of human biology, psychology, and society, is it really likely that moderate consumption of a single ingredient, hearing a certain word, or standing in a particular posture for 3 minutes can substantively change our lives? Any effects they might have on us will almost surely be small and tangled up with thousands of other things that impact us from day to day and moment to moment. Sophisticated problems not only need sophisticated methods to analyze them, but more importantly, a cumulative body of scientific evidence supporting the effect (rather than accepting "significant" results from one study in isolation).

Measuring small effects within noisy systems turns p-values on their heads. In reference to one particular study presenting p-values as evidence for questionable results, social scientist and statistician Andrew Gelman [illustrated the situation](#) as "...trying to use a bathroom scale to weigh a feather—and the feather is ... in the pouch of a kangaroo that is vigorously jumping up and down". [Gelman and Carlin](#) (2014) show that the inadequacies of p-values and NHT in these situations all but ensure that reported effects are exaggerated just by chance.

Ultimately, the problem addressed by the ASA is not simply about p-values, but rather about inappropriate application of some statistical methods, erroneous interpretation of their results, and the over-reliance of a single statistical measure to accept or reject the importance of a scientific study. Many alternatives to NHT exist, but none is a silver bullet. As the ASA makes clear in their new statement: **"The validity of scientific conclusions ... depends on more than the statistical methods themselves. Appropriately chosen techniques, properly conducted analyses and correct interpretation of statistical results also play a key role in ensuring that conclusions are sound and that uncertainty surrounding them is represented properly."**

### **April 21, 2016 – Boulder, CO, US**

On April 21, 2016, our consultants will present co-authored research on multiple sclerosis at the [2016 Annual Meeting of the American Academy of Neurology](#), held in Vancouver, BC, on April 15-21, 2016.

The work to be presented is abstract number 486 entitled, "Is Severity of Adverse Events Affected by the Dose and Frequency of Glatiramer Acetate Treatment of Relapsing-Remitting Multiple Sclerosis". [Let us know](#) if you'll be attending and would like to meet our team.

### **April 1, 2016 – Boulder, CO, US**

EpiX Analytics is the lead sponsor of [The Foodborne Outbreak Challenge](#), that will take place on April 1, 2016, at the CU Anschutz Medical Campus in Aurora, CO. It is an all-day student event organized by the [Colorado Integrated Food Safety Center of Excellence](#) of the Colorado School of Public Health.

It is a multidisciplinary student collaboration to learn critical thinking skills required in public health. The event is to take place at the CU Health Sciences Library Reading Room at the Aurora, CO campus.

### **March 2, 2016 - Boulder, CO, US**

By invitation of the National Cattlemen's Beef Association, [Dr. Francisco Zagmutt](#), Managing Partner at EpiX Analytics, attended the [Beef Industry Safety Summit](#) that was held in Austin, TX on March 1-3, 2016. Dr. Zagmutt gave a talk about the use of risk analysis for food safety, and provided an update on a current project on antimicrobial resistance in beef, during the General Session II: Antimicrobial Use and Risk Assessment.

### **Sept. 25, 2015 – Boulder, CO, US**

[Dr. Francisco Zagmutt](#), Managing Partner at EpiX Analytics in Boulder, CO, will be part of a discussion panel in one of the live streaming sessions that will take place at the [Conference on Risk Assessment in Spectrum Policy](#), October 23, 2015, at this site you learn more about buying tadalafil online <http://www.canadianpharmacy365.net/product/tadalafil/>. The conference will put together leading figures in risk assessment and spectrum policy to discuss how quantitative risk analysis methods can be used to inform spectrum policy when allocating new wireless services.

[Dr. Zagmutt](#), will be a participant in a moderated discussion in Session 1, **Risk Analysis in Engineering and Public Policy**, that will take place from 1:15 pm to 2:30 pm. Conference registrations are free, but if you can't join the conference you can watch the [live stream](#) free of cost.

### **Aug 6, 2015 – Boulder, CO, US**

[Dr. Francisco Zagmutt](#), Managing Partner at EpiX Analytics, will be presenting EpiX Analytics' research during the 31st Congress of [ECTRIMS](#) (European Committee for Treatment and Research in Multiple Sclerosis), in Barcelona, Spain, on October 7-10, 2015. Francisco will be happy to meet you if you are attending the conference; please [let us know](#) if you are going!

### **Aug 6, 2015 – Boulder, CO, US**

Join our EpiX Analytics consultants at the [ISVEE](#) 14 Symposium in Mérida, Yucatán, Mexico, on November 2-7, 2015 to hear their varied oral presentations and to spend some time meeting them.

[Dr. Solenne Costard](#), Epidemiologist and Senior Consultant at EpiX Analytics, will speak on **Raw Milk Consumption in the US: How safe is it?**

[Dr. Huybert Groenendaal](#), Managing Partner at EpiX Analytics, will discuss **Index Based Livestock Insurance in the Developing World – What is it, how does it work, and why should you care?**

**Towards Sensible Risk Analysis and Disease Simulation Models in Animal Health and Food Safety: A concept paper** will be presented by EpiX Analytics Managing Partner, [Dr. Francisco Zagmutt](#)

More information on time and location of their presentations will be made available on [ISVEE's website](#).

### **May 29, 2015 – Boulder, CO, US**

Dr. Kurt Rinehart will be attending URTEC, the [Unconventional Resources Technology Conference](#), in San Antonio, Texas in July 20-22. URTEC is an energy industry conference that focuses on the science and technology of unconventional (e.g., shale) oil and gas. Dr. Rinehart's interest is primarily in forecasting and appraisal of unconventional assets. To this end, he will be sharing knowledge with leading experts in the industry through short courses and networking forums.

If you are going to the conference Kurt will be happy to meet with you, so please feel free to send him an email at [KRinehart@epixanalytics.com](mailto:KRinehart@epixanalytics.com) to coordinate.

### **May 28, 2015 – Boulder, CO, US**

The European Food Safety Agency ([EFSA](#)), has released a [scientific opinion on canine leishmaniosis](#) (CanL) which draws largely from work involving a stochastic simulation model developed by EpiX Analytics consultants, as described in an [earlier news item](#).

EFSA's scientific opinions are a key component of science-based decision making in Europe, as they are used as the basis to establish risk management strategies and policies in food safety in Europe.

The model developed by EpiX quantifies the risk of introduction and persistence of CanL in Europe as a result of movement of dogs, and uses novel methods to incorporate the uncertainty in key model parameters and the variability inherent to the spread of an infectious disease with multiple hosts. The model has been published in the [Epidemiology and Infection Journal](#).

The full text of EFSA's scientific opinion can be found here: <http://www.efsa.europa.eu/en/efsajournal/doc/4075.pdf>

### **March 11, 2015 – Boulder, CO, US**

[Dr. Francisco J. Zagmutt](#), Managing Partner at EpiX Analytics, has been invited to speak at a U.S. Regulatory Policy Workshop, to discuss risk analysis methods to assess and balance risks in the formulation and dating period of vaccines. The workshop will take place at Iowa State University in Ames, Iowa, USA, on April 21-22, 2015.

The [workshop](#) will gather scientists and experts from the public and private sector to discuss regulatory issues in vaccine potency. In his talk and follow-up round-table discussion, Dr. Zagmutt will focus on how analytical methods from disciplines such as Health Outcomes Research, epidemiology, Bayesian statistics, and Operations Research could be applied to create a framework to determine optimal vaccine potency based on efficacy, safety, and quality targets.

### **Feb. 26, 2015 – Boulder, CO, US**

On Feb. 26, 2015, [Dr. Huybert Groenendaal](#), Managing Partner at EpiX Analytics, delivered a webinar presentation sponsored by Palisade Corp. His presentation was entitled, *Lessons from Oil and Chemical Case Studies: How to Build Accurate and Decision-Focused @RISK Models*. The webinar includes various practical recommendations, such as best practices on including correlations in @RISK models and how to present results to senior management. Follow this link for a recording of the webinar and to give us feedback on his presentation! <https://www.youtube.com/watch?v=RJ2U73CZcWQ>.

### **Dec. 11, 2014 - Boulder, CO, US**

[Dr. Francisco J. Zagmutt](#), Managing Partner, and [Dr. Kurt Rinehart](#), Risk and Statistical Consultant, presented a webinar for Palisade Corp. on Dec. 11, 2014 entitled, **Applied and efficient modeling in natural resources: case studies of mining and oil and gas**. Price volatility, weather-dependent demand cycles, changing regulations, technological developments, and many other factors contribute to the complexity of modeling. Good model design is instrumental to building simple models of complex systems than can deliver immediate and valuable insight to decision makers. Several case studies from EpiX Analytics' client work were discussed where a balance is met between model realism and structural simplicity.

Follow this link for a recording of the webinar <http://youtu.be/zOUxa8eifZk>. Please let us know what you think of this, via comments on youtube or emailing the presenters directly using the contact information at the end of the seminar.

### **Jan. 23, 2015 – Boulder, CO, US**

In December 2014, [Dr. Kurt Rinehart](#), a Risk and Statistical Consultant at EpiX Analytics, was awarded a PhD from the Rubenstein School of Renewable Natural Resources at the University of Vermont. Dr. Rinehart's thesis was focused on assisting resource managers in decision making under uncertainty. Explaining his PhD project, Dr. Rinehart says "I used a hypothetical resource management scenario and extensive simulation studies to examine how investment in collecting additional data reduced uncertainty and, most importantly, whether the reduced uncertainty led to better decisions."

Please join us congratulating Dr. Rinehart for this great achievement!

### **Dec. 2, 2014 - Boulder, CO, US**

[Dr. Solenne Costard](#), an epidemiologist at EpiX Analytics, will give a presentation on Dec. 8, 2014 at the SRA 2014 Annual Meeting entitled, **Is Raw Milk Safe? Quantitatively assessing the impact of raw milk consumption changes in the U.S.** Using stochastic modeling, we estimated the risk of illness due to consumption of milk and cheese contaminated with 4 major pathogens, and the additional risk associated with unpasteurized products. Here is a link to the [abstract](#).

### **Nov. 10, 2014 - Boulder, CO, US**

[Dr. Huybert Groenendaal](#) managing partner at EpiX Analytics, delivered a presentation on Nov. 20, 2014, at Palisade's 2014 Regional Risk Conference in New Orleans. His presentation was entitled, **How to Build Accurate and Decision-Focused @RISK Models? Lessons from three real-life case-studies.** [Here is a link to the presentation.](#)

### **May 5, 2014 - Boulder, CO, US**

[Dr. Francisco Zagmutt](#) will be delivering a talk entitled "What Matters and What Doesn't: Building Pragmatic and Robust Simulation Models" at [Palisade's 2014 Risk Conference in Washington, DC](#), on June 26, 2014. Also, [Dr. Huybert Groenendaal](#) will be presenting at Palisade's 2014 Annual Risk Conference in New Orleans, LA, on November 19-20, 2014.

In addition, Drs. Groenendaal and Rinehart will attend the [SPE Hydrocarbon Economics and Evaluation Symposium](#) in Houston, TX, on May 19-20, 2014. Please let us know if you are also attending, we would be delighted to catch up!

For more information, please contact Barbara O'Neill at: [boneill@epixanalytics.com](mailto:boneill@epixanalytics.com)

### **May 5, 2014 - Boulder, CO, US**

The European Food Safety Agency ([EFSA](#)) has published on April 29, 2014 the report prepared by EpiX Analytics, The Royal Veterinary College and Universitat Autònoma de Barcelona on Canine leishmaniosis (CanL) in the European Union: <http://www.efsa.europa.eu/en/efsajournal/doc/466e.pdf>. "CanL is a disease transmitted by sand flies which can potentially cause severe fatal disease in humans and dogs", says Dr. Solenne Costard, co-author of the report. "Our work helped investigate and understand the efficacy of different control measures". Within the project, EpiX

developed a stochastic simulation model that was used to assess the role of movements of dogs in spreading Leishmania infantum (which causes CanL) in the European Union

For more information, please contact co-author Dr. Solenne Costard at [scostard@epixanalytics.com](mailto:scostard@epixanalytics.com)

### **February 27, 2014 - Boulder, CO, US**

We are excited to announce two new risk analysis courses for 2014. The [Advanced Quantitative Risk Analysis in Health and Food Safety](#) course runs from April 21-May 9, and the [Animal Agriculture and Food Safety Risk Analysis and Disease Modeling](#) course will be run for its 11th year and will be held in September 15-26, 2014.

Both courses focus on solving real-world risk analysis problems and teaching practical modeling methods and are offered at the Royal Veterinary College campus in London, UK. Course credits can be used for continuing professional development and selected postgraduate programs such as our postgraduate certificate.

For more information, please contact Barbara O'Neill at: [boneill@epixanalytics.com](mailto:boneill@epixanalytics.com)

### **October 10, 2013 - Boulder, CO, US**

EpiX Analytics, a leader in risk analysis and probabilistic modeling, celebrated its 10 year anniversary this past August. Since EpiX Analytics opened its doors in 2003 in a small office in Princeton, New Jersey, it has supported its clients in identifying and quantifying their risks and uncertainties – from pharmaceuticals, food safety and animal health to finance, insurance, manufacturing, construction and oil & gas. *"We've had the pleasure to work together with hundreds of companies and public organizations and taught courses in risk analysis on six continents to over a thousand participants. It is a testament to all of us – companies, governments and individuals alike – that we can all benefit from better understanding our risks",* says Dr. Francisco Zagmutt, managing partner. *"We thank all of our clients we've had over the years for giving us the opportunity to work with you and we look forward to continuing the journey for many years to come!"*

### **July 9, 2013 - Boulder, CO, US**

**EpiX Analytics** is proud to announce a new collaboration with the **Joint Institute for Food Safety and Applied Nutrition (JIFSAN)**. As part of its ongoing efforts to deliver high-quality services, EpiX Analytics has started a collaborative agreement with JIFSAN to provide training and research & development in the area of food safety and health. The collaborative alliance takes advantage of JIFSAN's reputation for high quality food safety training and EpiX Analytics' expertise in quantitative risk analysis methods.

As a first initiative within this collaboration, JIFSAN and EpiX Analytics will be offering two training courses this fall: [Introduction to Quantitative Risk Assessment](#) (10/28/13 – 11/1/13) and [Advanced Quantitative Risk Assessment](#) (11/4/13 – 11/8/13) in College Park, MD.

For more information on this collaboration please contact [info@epixanalytics.com](mailto:info@epixanalytics.com).

### **November 2, 2012 - Boulder, CO, US**

[Dr. Huybert Groenendaal](#) presented a live Crystal Ball Webcast and shared his expertise regarding risks and uncertainties in quantitative analysis and decision making, how to avoid common mistakes when using Monte Carlo simulation, and best practices for the use of Crystal Ball to support decision making. The webcast had a record attendance, and received very positive comments from the participants. A copy of the presentation is available [here](#).

### **November 7, 2012 - Boulder, CO, US**

[Dr. Huybert Groenendaal](#) delivered a presentation entitled "Good Practices and Common Mistakes" at the Palisade 2012 Risk Conference, held in Las Vegas. Through hands-on experience with hundreds of projects, Dr. Groenendaal discussed good practices related to the use of @RISK and risk modeling to improve decision-making in a variety of business situations. A copy of the presentation is available [here](#).

#### **December 6, 2012 - Boulder, CO, US**

[Dr. Huybert Groenendaal](#) presented a live webcast at Palisade to share his expertise regarding good practices for the use of @RISK and risk modeling in quantitative analysis and decision making. Dr. Groenendaal also discussed the common mistakes in Monte Carlo simulation and how to prevent them. This presentation was one of the favorite sessions at the Nov. 2012 Palisade Risk Conference in Las Vegas. A copy of the presentation "Good Practices and Common Mistakes" is available from [our website](#), and the webcast is available from [Palisade's website](#).

#### **January 25, 2013 - Boulder, CO, US**

We are pleased to announce our 2013 Course Schedule is now online and open for registration. You can find the 2013 schedule [here](#).

#### **April 10, 2013 - Boulder, CO, US**

Two EpiX Analytics consultants presented educational talks during Oracle's Collaborate 13 Forum on April 8th. The first presentation was delivered by [Dr. Francisco Zagmutt](#), managing partner, and focused on key issues to build technically sound simulation models, and how to transition deterministic models to stochastic ones while avoiding common mistakes during this process. A copy of the presentation "You got Crystal Ball now what? Building technically sound simulation models" is available [here](#).

The second talk delivered by [Dr. Huybert Groenendaal](#), managing partner, was titled, "Crystal Ball Case Studies: Successes and failures using simulation models and Crystal Ball and what you can learn from them." Dr. Groenendaal demonstrated, via case studies from the oil & gas industry, pharmaceuticals, and technology & services industries, how the use of Crystal Ball can dramatically improve decision-making. A copy of the presentation is available [here](#).

#### **May 2, 2013 - Boulder, CO, US**

[Dr. Francisco Zagmutt](#), managing partner, will be delivering a plenary talk entitled "[You got @RISK, now what? Building technically sound simulation models](#)", at Palisade's 2013 Risk Conference in London, UK, on June 11, 2013. Dr. Zagmutt explains that implementing stochastic models can be difficult and requires good knowledge of probability theory and statistics. In this workshop, Francisco will highlight several traps and mistakes that are frequently made when building stochastic models and will provide a checklist for analysts to keep in mind while building their @RISK models.

In addition, [Dr. Solenne Costard](#), senior consultant, will be presenting "[Risk-based Portfolio Management: A pharmaceutical application](#)", a case study based on a real life consulting project that illustrates the use of Monte Carlo simulation modeling in forecasting complex pharmaceutical portfolios.

[Here is a link](#) to a copy of Dr. Zagmutt's presentation.

[Here is a link](#) to a copy of Dr. Costard's presentation.

Visit the [conference's website](#) for more details on the conference contents and schedule.

### **November 26, 2012 - Boulder, CO, US**

In their section called Reviews of Books and Teaching Materials, *The American Statistician* journal (published by The American Statistical Association) very positively reviewed the book "Practical Spreadsheet Risk Modeling for Management", co-authored by Dr. Huybert Groenendaal, managing partner of EpiX Analytics.

In his fairly detailed review, Prof. George E. Batta wrote: "... I recommend the book as a very readable, practitioner-oriented primer on the topic of risk modeling. The authors use plain English to describe some fairly recondite topics. They also take pains to make sure readers can easily follow within-chapter examples: as they walk readers through the steps involved in spreadsheet modeling..."

'The goal of the book was indeed to provide a readable introduction to the practice of risk modeling in spreadsheets, and we are pleased that Prof. Batta thought we had achieved this aim' says Dr. Huybert Groenendaal.

Readers can obtain a copy of the full book review [here](#).

### **March 8th, 2012 – EpiX Analytics to present in workshop "Modeling Practical Aspects of Clinical Trials" at the American Society of Clinical Pharmacology and Therapeutics in National Harbor, MD**

On March 15, 2012, Dr. Huybert Groenendaal, managing partner of EpiX Analytics, will be presenting "*When there are differences in opinions: Combining Expert Opinions*". The presentation will be part of the workshop "Modeling Practical Aspects of Clinical Trials", and will focus on the use of different data sources as well as the use of experts in probabilistic modeling in early drug development.

"The conference will draw thousands of scientists in the pharmaceutical industry. The presentation will focus on techniques to combine a variety of data sources and/or expert estimates used to model early stage drug development" says Dr. Groenendaal. "During early drug development there is little safety and/or efficacy data, data sources from different animal models or studies can often provide conflicting information, and expert estimates often disagree. In such situation, probabilistic techniques to combine data and expert opinion are important to provide a sound way of using all sources of evidence to support decision making"

The presentation can be downloaded from [this link](#).

### **December 3, 2011 – EpiX Analytics presents at the Third International Conference on Infectious Disease Dynamics (EPIDEMICS<sup>3</sup>) in Boston, US**

The international EPIDEMICS<sup>3</sup> conference held in Boston, US, from November 29th to December 2<sup>nd</sup>, was dedicated to the study of epidemic diseases and the dynamics of infection in humans, wildlife, livestock and plants.

EpiX Analytics' consultants joined forces with researchers from the Royal Veterinary College and CIRAD to present a novel application of simulation modeling to assess the effect of people's behavior on the spread of livestock disease.

The study focused on African swine fever (ASF), a disease with severe socio-economic impacts present in most of Sub Saharan Africa, Sardinia and the Russian Federation. Field observations in affected areas show that in case of a suspected outbreak, many small-scale farmers sell pigs with symptoms for slaughter and pigs without symptoms (healthy or infected) to traders. The risk of spread from small-scale farms due to that behavior was modeled to assess whether increasing farmer's awareness of ASF could reduce the risk. Dr. Solenne Costard (PhD), senior Consultant at EpiX Analytics and the main author and presenter of the study explained that such studies are useful for stakeholders

and decision-makers in affected areas as they allow simulating the effectiveness of different disease control strategies without having to incur prohibitive on-site trials.

Readers can find a copy of the presentation in EpiX Analytics's downloads section [here](#).

### **September 6, 2011 - Boulder, CO, US**

Risk Modeling in Drug Development - (2 days)  
Financial Risk Modeling for Pharmaceuticals - (2 days)

EpiX Analytics is pleased to present two newly developed risk analysis and modeling classes in health and pharma. The creation of the course is a response to the increased demand for courses on this area from our clients and research partners. The two courses were developed by our senior consultants, based on our working experience in the health, pharmaceutical and medical device fields.

The "Risk Modeling in Drug Development" course is designed to help those who wish to apply quantitative risk analysis modeling to support decision-making through the drug development process from the pre-clinical stages to phase III trials. The course will teach participants how to use risk analysis and Monte Carlo simulation to better understand risk and uncertainty. It will also help participants in understanding the most important modeling techniques, methods and software tools available to perform and interpret risk analyses during drug development.

The "Financial Risk Modeling for Pharmaceuticals" course focuses on quantitative financial risk analysis modeling techniques to support decision-making in areas such as business development, finance, marketing and strategy. Participants will learn how to use Monte Carlo simulation within Excel to get better insight into the risks and uncertainties that surround financial decisions. The course will also cover the most important modeling techniques, methods and software tools available to perform and interpret financial risk analyses.

In addition to organizing the two new courses as at our clients in-house, the following public courses are scheduled for 2011 and 2012:

#### [Risk Modeling in Drug Development](#) (2 days):

- Jan. 31 – Feb. 1, 2012 in Princeton, NJ, USA.
- March 19 – 20, 2012 in Boulder, CO, USA.

#### [Financial Risk Modeling for Pharmaceuticals](#) (2 days):

- November 3-4, 2011 in Boulder, CO, USA.
- March 22 – 23, 2012 in Boulder, CO, USA.
- June 21 – 22, 2012 in Amsterdam, The Netherlands.

For a complete schedule of our public courses, please visit <http://www.epixanalytics.com/Course-Schedules.html>

### **May 25, 2011 - Boulder, CO, US**

EpiX Analytics and Teva Pharmaceuticals present a workshop at the annual conference of the International Society of Pharmaceutical Outcome Research (ISPOR) in Baltimore, US.

Teva Pharmaceuticals and EpiX Analytics co-organized a workshop at the 2011 International Society of Pharmaceutical Outcome Research (ISPOR) annual conferences in Baltimore, MD. The title of the presentation was "*Stochastic Modeling in Pharmacoeconomics – common mistakes and how to avoid them*". 'During our work in the field of pharmacoeconomics and outcome research, we have found that even in the peer-reviewed literature quite frequently mistakes are being made related to stochastic modeling', says Dr. Francisco Zagmutt, co-author of the workshop. 'Our goal with the current workshop was to make people aware of some of the mistakes that can have a serious impact in the modeled

outcome, and show the correct modeling methods available to the analyst. We hope our workshop will help avoid these common mistakes and increase the quality of stochastic modeling in the field of pharmaco-economics and outcome research.

Readers can find a copy of the workshop presentation in EpiX Analytics's downloads section [here](#). Copies of the models used during the presentation are available upon request using this [contact form](#).

#### **April 4, 2011 - Boulder, CO, US**

This month, consultants at EpiX Analytics co-authored the cover article of the American Association of Pharmaceutical Scientists. A full copy of the article as well as additional resources can be found in our website at [www.epixanalytics.com/aaps.html](http://www.epixanalytics.com/aaps.html).

'During early drug development numerous decisions have to be made while there is still large uncertainty about many factors such as the efficacy, toxicity, optimal dose and side effects of drugs', says Dr. Huybert Groenendaal, author of the article and managing partner at EpiX Analytics. 'This article discusses how quantitative risk analysis helps facilitate decision making in a team settings or by management. We have found such benefits also to occur in other fields, inside and outside the pharmaceutical industry'.

#### **March 22, 2011 - Boulder, CO, US**

EpiX Analytics announces the release of ModelAssist version 2.0 for Crystal Ball. This new version has updated functionality and features and is now fully supported by EpiX Analytics. Backward compatibility with older Crystal Ball has been resolved. New chapters will be added to version 2.0 with future 2011 updates. Version 2.0 of ModelAssist for @Risk will be released in the coming weeks so please visit our website regularly for updates.

Users of ModelAssist can find the answer to almost any risk analysis related question. This makes it the perfect reference tool before and after taking one of our training courses. ModelAssist shows users how to set up various models and the purpose of this is to make the actual modeling technique easy so that the focus can remain on creating accurate, clear, decision-supporting, and defensible risk analysis models.

#### **April 20, 2011 - Boulder, CO, US**

EpiX Analytics presented '*Probabilistic Modeling to Support and Facilitate Decision Making in Early Drug Development*' at the annual Decision Analysis Affinity Group meeting, this year in Houston, TX.

Early drug development is characterized by complex and very risky decisions with potentially large financial impacts. Such situations are however not unique to the pharmaceutical industry so the concepts discussed during the presentations therefore also had great relevance for many other industries. You can find a copy of the presentation in our downloads section [here](#).

#### **January 26, 2011 - Boulder, CO, US**

Two of EpiX Analytics's senior consultants were part of an expert working group (EWG) assembled to evaluate the risk of introduction of PRRSv, a swine disease into New Zealand via imported fresh/frozen pig meat. New Zealand is currently free of the disease and wanted to evaluate the potential for PRRSv introduction as a result of a change in pig meat import regulations.

The EWG was composed of invited experts from multiple countries and institutions. New Zealand's Ministry of Agriculture and Forestry (MAF) invited EpiX's consultants to provide their expertise in quantitative risk assessment and epidemiology. Dr. Howard Pharo, Team Manager of the Animals, Risk Analysis Group and MAF biosecurity says "We initially engaged EpiX's consultants to help us with the implementation of our model, but we quickly realized that their expertise went well beyond the modeling software so we decided to use their expertise in the expert working group. EpiX's consultants were always extremely responsive to all our requests and questions, and provided invaluable

technical input to build the risk assessment model”.

Dr. Zagmutt lead EpiX’s participation in the panel and posterior consulting work with MAF explains “This project was very motivating for us, as it allowed us to help New Zealand to make decisions on an important policy issue, and also let us interact with experts on different aspects of PRRSv while contributing with our modeling expertise. We got the opportunity to work not only on the modeling itself, but we also interacted with stakeholders and decision makers.”

### **December 21, 2010 - Boulder, CO, US**

The article “*Probabilistic Risk Analysis: Improving Early Drug Development Decision Making*” was published in the December, 2010 issue of ‘Clinical Pharmacology & Therapeutics’, a scientific journal published by the Nature Group. An abstract is available at <http://onlinelibrary.wiley.com/doi/10.1038/clpt.2010.231/abstract>.

‘Good decision making does not always guarantee the best outcome, but it improves the odds of one. Especially in the pharmaceutical industry where investments and risks are often large, probabilistic risk analysis (PRA) can improve decision making and contribute to a more efficient drug development process’, says Dr. Huybert Groenendaal, co-author of the article and managing partner at EpiX Analytics. ‘We have provided our services and worked with GlaxoSmithKline for several years so it was a natural extension to collaborate with them writing this article to share with others how PRA can improve implementation of model-based drug development. This article allowed us to combine our expertises to provide a holistic view of the application and relevance of PRA in early drug development’.

### **November 29, 2010 - Boulder, CO, US**

EpiX Analytics work finalist for award at international conference in Prague, Czech Republic.

On November 6, 2010, Dr. Francisco Zagmutt, managing partner of EpiX Analytics, presented a poster with the results of study titled “*Indirect Comparison of Adverse Events for Early Parkinson’s Disease (PD) Monotherapy Trials: Pramipexole, Ropinirole and Rasagiline*”. The poster was very well received and was a finalist for best poster award.

“The study we presented was unique in the sense that it combined traditional statistical methods (meta-analysis) with risk analysis methods to estimate the safety profile of three important Parkinson’s Disease drugs that have not been compared head-to-head in a clinical trial setting.” says Dr. Zagmutt. “The results of this study provide clinicians and patients with important information to choose an adequate treatment strategy against PD.”

### **August 31, 2010- Boulder, CO, US:**

EpiX Analytics is now certified by the Project Management Institute to provide Project Management Training as a PMI® Registered Education Provider (R.E.P). The PMI certified course currently offered by EpiX Analytics is:

---

#### *Introduction to Quantitative Project Cost and Schedule Risk Analysis*

“The PMI certification of our project risk analysis course is an important recognition of the quality of our training and workshops,” says EpiX Analytics managing partner Dr. Huybert Groenendaal. “Our clients will not only get high quality and hands-on risk analysis training, but also the PMI education credits they need.”

The “[Introduction to Quantitative Project Cost and Schedule Risk Analysis](#)” course is designed to help those who wish to apply quantitative risk analysis modeling to project planning and cost estimation problems. The course will teach participants how to better understand a project’s risk and uncertainty, and improve the operational management of risks during the execution of a project. It will also help in understanding the most important modeling techniques, methods and software tools available to perform and interpret project cost and schedule risk analyses using risk analysis and risk modeling techniques (including Monte Carlo simulation).

EpiX Analytics is organizing the *Introduction to Quantitative Project Cost and Schedule Risk Analysis* course for a number of clients. In addition, a public course is scheduled for February 16 – 17 in Boulder, CO, USA. See the [course schedule page](#) for more information.

PMI is a registered trademark of Project Management Institute, Inc.

**October 15, 2010 - Boulder, CO, US**

Specialized risk analysis consulting and training firm, Vose Consulting US, LLC, announced today that it has changed its name to EpiX Analytics LLC.

According to Dr. Huybert Groenendaal, managing partner of EpiX Analytics, an agreement was signed late last month that resulted in a split between EpiX Analytics (previously named Vose Consulting) and Vose Software BVBA.

“Our new name indicates an exciting change and re-focusing of our business strategy”, said managing partner Dr. Francisco Zagmutt. “Our business is to support decision makers by using state of the art quantitative methods to identify, quantify and clearly communicate the risks of any decision. We provide consulting, training and research services which will once again be fully independent of the specific software tool used. We are experts in using any of the popular Monte Carlo tools such as ModelRisk, Crystal Ball, @RISK as well many statistical packages including the R statistical language and WinBugs software. Based on client feedback, we know such independence is critically important for the highest quality advice”.

EpiX Analytics is a firm with vast experience in risk and decision analysis consulting . “We are a recognized leader in the field of risk analysis and decision modeling, and we are committed to helping our clients use modeling techniques to improve the quality of their decisions” said Dr. Groenendaal.

**November 16, 2010 - Boulder, CO, US**

EpiX Analytics to present at the American Association of Pharmaceutical Scientists in New Orleans.

On November 16, 2010, Dr. Huybert Groenendaal, managing partner of EpiX Analytics, will be presenting “*Risk Analysis in the Pharmaceutical Industry - What We Can Learn from Other Industries*”. The presentation will be part of a workshop, jointly organized with GlaxoSmithKline Inc., and will focus on the use of Monte Carlo and probabilistic modeling in early drug development.

“The conference will draw over ten thousand scientists in the pharmaceutical industry. Our presentation will focus specifically on lessons that analysts and decision-makers in early stage drug development can learn from other industries such as oil and gas and food safety,” says Dr. Groenendaal. “Within early drug development there are a lot of risky decisions to be made that can be improved by the use of probabilistic techniques.”