# Risk Analysis, Prospect Evaluation & Exploration Economics

# The "Flagship" course from Rose & Associates is returning to Jakarta as an Open Enrollment Course

Dates:	October 22-26, 2018		
Instructor:	Mark Schneider, Rose & Associates		
Location:	Gran Meliá Hotel, Jakarta		(www.melia.com)
Cost:	Includes lunc Excludes VAT	Early Bird Deadline: h and coffee breaks	
Registration:	www.RoseAs	soc.com	

# Rose & Associates' Risk Analysis, Prospect Evaluation & Exploration Economics (5 Days)

Our flagship course covers all phases of exploration decision-making and has been presented more than 200 times worldwide over the past ten years. With a strong practical orientation and abundant use of realistic exercises, we illustrate the applications and mechanics of the various concepts and analytical procedures involved in the evaluation and investment analysis of exploration prospects.

The course follows the characteristic chain of considerations that attends most exploration projects, including both theory and application, and integrates the geotechnical, leasing, economics, and management aspects of such ventures. This course utilizes the latest methods for dealing with risk and uncertainty and is recommended for geoscientists, landmen, negotiators, engineers, economists, and management.

Practical application of concepts and methods is demonstrated for participants using real prospects and computer-projected risk analysis software. To reinforce key concepts, there are abundant learning opportunities and exercises in which the student can win or lose small amounts of money. Completion of the course should prepare participants for immediate application and utilization of all concepts and techniques in the economic appraisal of ventures.

Though the course focus is on exploration prospects, the methodology taught is also applicable to appraisal and development projects.

- **Day 1:** Introduction; Statistics: The Language of Uncertainty Probabilities & Distributions; Coping with Uncertainty; Estimating under Uncertainty Exercise
- **Day 2:** Estimating Petroleum Reserves; Expected Value and Chance of Prospect Success; Truncation Issues; RMAG Exercise (Introduction)
- **Day 3:** RMAG Exercise (Completion); Decision Trees and the Value of Information; Exploration Economics (Estimating Profitability and Economic Metrics); The Most Crucial Decision: Selecting New Exploration Plays
- **Day 4:** Dealing with Risk; Prospect Inventories & Portfolio Management; Acquisition Strategies and Bidding; Performance Tracking; Antelope Ranch Final Exercise (Introduction)
- Day 5: Antelope Ranch Final Exercise (Completion and Review); Conclusion

What Participants are Saying:	"outstanding exercises"	
	"highly qualified, engaging faculty"	
	"great use of anecdotes"	

# **Rose & Associates' Flagship Course:**

Risk Analysis, Prospect Evaluation & Exploration Economics

**Antelope Ranch Exercise** 

**Risk Aversion** 

**RMAG Exercise** 

DAY 3

DAY 2

DAY 4

All Risk Averse Deals Balance

MWW

DAY 5

Mapping Prospects

Portfolio Management

Dec Tree & VOI

EV & Chance

Decision Trees and VOI

Solve tree to left

Structural Sag: May place any embayment below oll-water contact

Inventories and Portfolios

E and P Capital Alloc

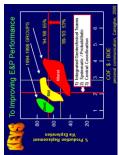
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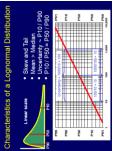




Estimating EUR Building A Distribution of Average Net Pay Estimates













Effective estimating skills arise from

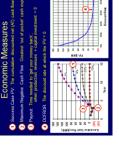
Utilizing the expectation of lognormality Appropriate Ranges; Plausibility and reality checks; The power of independent multiple esti

IETHODS FOR IMPROVING ESTIMATES EXERCISI



# **RMAG Intro**





Reduce EV by 50% to 80% to generate Bid Bid Widely, on <u>ALL</u> Blocks Having (+) EV Proper Attitude: "*IJ We can* t *Get This Tract f* 

Revise Success Criterion: from:Win Tracte to: Add Value

ncourage the State to Offer Ma ow Else Can Leases be Acquir







































































**Bid Strategy** Remedies For The "Winner's Curse'

**Review: Skill Pays** 

PROFIT: SKILL v PROFIT / SPENT Highest skill is most efficient()











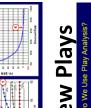




<sup>D</sup>artial Geologic Dependence









Performance Tracking

Sequential Accumulation Plots Help Determine If There Is Bias

equential Accumulation Plo Predicted and Actual EUR

but not where

Portfolio Analysis: Monte Carlo

Play Analysis: Monte Carlo simulatio of Play FSD, Play Chr

Making it Work

WHAT WORKS?



















## About the Instructor



Mark Schneider P.Eng. (BS Chemical Engineering, BS Natural Gas Engineering, MS Petroleum Engineering) is a registered Professional Engineer with a diverse technical and business background. During a career of over 35 years, he has lived and worked in North America, Europe, and Asia. He joined Rose & Associates, LLP (R&A) in 2010. He started his career in 1981 with Energy Reserves Group (now BHP Billiton) and was a member of BHP's first Deepwater Group in 1993 when he decided to start an international career with Maxus Energy (now Repsol) in Indonesia.

In 1997, Maxus set up a systematic risk analysis procedure worldwide and he was an original member of the "Risk Normalization Team," which was responsible for normalizing exploration prospect risking across all business units. Ever since, he has been a champion and mentor of systematic risk analysis and uncertainty quantification. In 2002, he transferred to Madrid where he took on a variety of challenging technical and managerial roles. Prior to his last position with Repsol as the Director Corporate Reserves, he was part of a QA/QC team that monitored all significant worldwide development projects in the upstream business units.

In 2007, he decided to return to Asia and joined CNOOC in Jakarta. In his last role as Manager of Technical Coordination, his responsibilities included New Ventures, Business Development, Joint Ventures, and internal quality control for prospect generation. Throughout his career, he has demonstrated the ability to guide and influence multi-discipline, multi-cultural teams and to complete multiple tasks on schedule; as well as the ability to communicate clearly and effectively across multiple vertical layers within a large organization.

Since joining R&A, he has traveled around the world teaching risk analysis courses and consulting on a wide range of projects ranging from implementing corporate-wide systematic risk analysis processes for the exploration department of a large integrated company to assisting technical teams on individual prospect evaluations. He has also contributed to the technical enhancement of the software programs that are marketed through R&A's software subsidiary, Lognormal Solutions Inc.

In 2002, he received the SPE Asia-Pacific Regional Service Award. He has served on many local, regional, and international committees with SPE, AAPG, EAGE and IPA. He served three year terms on both the SPE Formation Evaluation Award Committee and Reservoir Description and Dynamics Awards Committee. He was co-chairman on the SPE Asia-Pacific Forum on Stacked, Compartmentalized Reservoirs in Thailand and a steering committee member on the SPE Applied Technology Workshop on Probabilistic Methods in Japan. He is currently a member of AAPG's Visiting Geoscientist Program. He has co-authored papers published by the AAPG, IPA, SEG, SPE and OTC. He is a member of SPE, AAPG, SEAPEX and IPA. Mark is a Partner with Rose & Associates.